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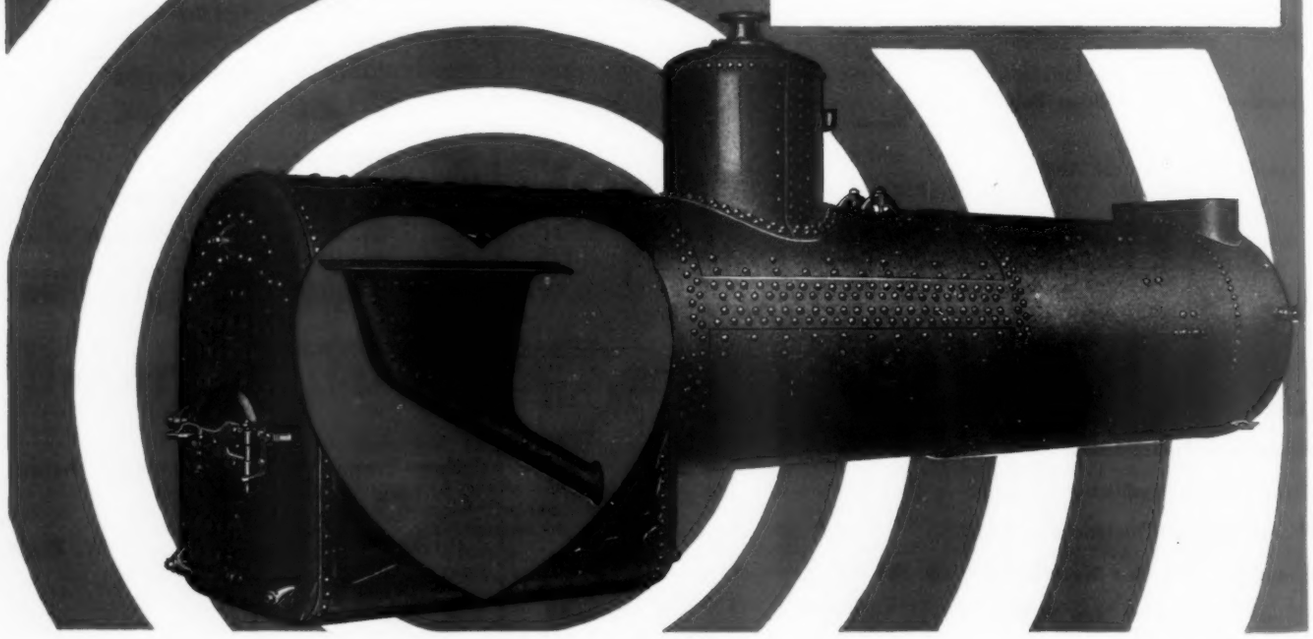

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Volume 54, No. 4 *July 12, 1929*

The OIL WEEKLY

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Refinery Crude Demand Exceeding Estimates

By H. J. STRUTH
Staff Economist

LAST February, it was pointed out in *The* OIL WEEKLY that the 1929 gasoline demand would necessitate the processing of about 995 million barrels of crude by refineries in the United States. According to the Bureau of Mines report for May, the quantity of crude oil actually consumed during the first five months of this year aggregated 396,443,000 barrels. Compared with a predetermined normal of 389,392,000 barrels, this represents an excess of 7,051,000 barrels. While analysis of the facts shows that refinery still run schedules are in excess of normal, it would not be surprising to witness further increases in demand from this source, which may bring this year's total refinery crude demand up to 1,015,000,000 barrels.

On the basis of gasoline demand, it is apparent that refinery runs of crude to stills are excessive. However, most of the excess is credited to Texas and California; other refining areas maintaining operating schedules more in conformity with the demand for gasoline. During the first five months of this year, Texas refineries consumed 85,544,000 barrels of crude, compared with an indicated normal of 80,619,000 barrels. Similarly, California refineries consumed, during the same period, 95,194,000 barrels of crude, compared with an indicated normal of 90,939,000 barrels. In contrast with the foregoing, all other refining districts, including East Coast, Appalachian, Indiana-Illinois, Oklahoma-Kansas, Louisiana-Arkansas, and Rocky Mountain, consumed a total of 215,809,000 barrels of crude during the first five months, compared with an indicated normal of 217,796,000 barrels. Thus, we find that Texas and California refiners are creating an additional demand for crude to the extent of 9,180,000 barrels for five months, or at the rate of more than 22,000,000 barrels during the present year. While this can be regarded as an aid to the producing branch of the industry, particularly at this critical period of overproduction, it is also a fact that the refining branch of the industry cannot continue to run crude in excess of normal without suffering the consequences. It is therefore apparent that the producer is likely to experience a slackening in demand for crude when the refining industry realizes the necessity for paring still run schedules.

Table 1 shows what has happened in the way of crude requirements during the first five months of this year, in comparison with indicated normal. It also gives some idea of what to expect in the way of crude demand from the refining industry throughout the balance of this year.

TABLE 1

Refinery Crude Schedule — Year 1929
(Thousands of Barrels)

	Normal	Actual
January	74,546	78,825
February	71,712	72,031
March	78,843	80,708
April	79,778	80,459
May	84,513	84,420
June	82,731	
July	88,218	
August	89,182	
September	87,245	
October	87,019	
November	84,283	
December	86,928	
Total	995,000	

Further analysis of refinery crude requirements by major refining areas of the United States discloses information of added interest to the producer. For example, Table 2 shows actual crude consumed by refineries, by districts, during the first five months of this year, and the total indicated crude requirements for the entire year of 1929.

TABLE 2

Refinery Crude Requirements by Districts — 1929
(Barrels)

	Actual Demand first five Months	Total indicated Demand Year 1929
Appalachian	14,020,000	36,778,000
East Coast	69,322,000	183,682,000
Indiana-Illinois	42,828,000	108,122,000
Oklahoma-Kansas	46,080,000	121,558,000
Texas	85,544,000	203,384,000
Louisiana-Ark.	32,829,000	82,580,000
Rocky Mountain	10,630,000	28,490,000
California	95,194,000	230,399,000
Total	396,447,000	994,993,000

Even as early as last February, it was evident that, while the demand for gasoline would create an unusually large demand for crude during the current year, the oversupply would not be absorbed. As matters stand now, the industry faces the possibility of winding up this year with the largest stocks of crude on record. Since California has furnished the bulk of this year's overproduction, it is natural to conclude that depression, when it comes, will be felt more severely there than in any other section of the country. The only thing that can save the situation in California now is a sudden, unexpected decline in production at Santa Fe Springs, which appears decidedly unlikely for some time to come.

While business continues unusually good for all branches of the industry, with the prospect of showing immediate further increases with the advent of the peak season of gasoline demand, it must be conceded that the supply outlook is rather discouraging to the producer. As we review the events of the recent past, it becomes more than ever apparent that the last boost in crude prices was decidedly uneconomic and furnishes the chief underlying reason why the industry is again in the throes of overproduction. As far as the financial side of the industry is concerned, there is no doubt that 1929 will prove to be the best year in history. Of real concern, however, is the impending situation that confronts the industry following the present season of peak demand. In the meanwhile, we will continue to hear more talk about what should be done — but nothing will be done until the producer finds himself producing oil at a loss, in a crumbling crude market.

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Prestretching Composition Belts

By ROBERT BURNETT

THE term "prestretching" has been applied by the writer to the process of stretching full length belts previously to their installation, and the object of the treatment is to take out of the belt as much of the "dead stretch" as is possible before putting the belt into use—rather than to allow the full amount of that stretch to be worked out gradually on the drive. In other words, the objective is to shorten the period of "breaking in" or "running in" of a new belt and thereby to avoid much of the expense, and of the inescapable damage to belts which is indigenous to that practice.

This idea of prestretching belts was an outgrowth of the writer's early work in evaluating the elastic characteristics of composition belting. This work demonstrated the fact that the total elongation produced by any load on such a belt is composed of two distinct parts or components, namely, elastic elongation and inelastic elongation, or "dead stretch." Specimens once subjected to a given load were found to remain longer than their original gage in an amount quite uniformly proportional to that load for all specimens of like make. Subsequent applications of lesser loads, seemingly regardless of the number of such applications, did not appear to induce any additional permanent elongation, but any load greater than the previous maximum immediately did cause additional elongation in an amount proportional to the extra load increment. These phenomena at once suggested the practicability of pre-stretching new belts as a field practice, and experiments were undertaken to determine whether the idea was workable.

Study of old belt records, covering a period of several years indicated that new pumping belts had always required a great deal of attention during the first few weeks of their service in order to keep them tight enough to pull their loads. On heavy wells, the number of shutdowns during the first 10 days for the purpose of tightening the belts averaged about six per belt, and in a great many cases, more than two such shutdowns were necessary during the first 24 hours. After this initial period of running-in, however, the interims between "cuts" became increasingly longer until near the end of the belt's life, when general structure disintegration became apparent. This study also showed that the total amount of material cut from a pumping belt during its useful life amounted to several per cent. of the total original length and represented a considerable sum of money (about $8.00 per belt for heavy wells.)

The Economy of It

Obviously, the saving of that amount of money per belt, to a company owning two thousand of them was worth trying for, and it was hoped that the removal of the total amount of "dead stretch" by mechanical means prior to installation would eliminate the usual running-in period and enable the saving of several feet of belting as well.

Moreover, there were other, and greater economies which seemed possible of attainment by application of such a principle. For example, it had been noted that all new belts slipped badly during the latter part of each period between take-ups; in fact, they were not tightened until after slippage became pronounced, and in the meanwhile considerable damage had been done in the way of over-heating and drying out the surface fibers, and of glazing the transmission surface. This condition augured for short belt life and also for inefficient transmission due to lessened tractive friction of the contact face of the belt. Pre-stretching, it was hoped, would eliminate these two wastes because a perfectly elastic belt, properly tensioned, would not slip. For the same reason, it was hoped to reduce the power bill in whatever total amount slippage might represent.

Furthermore, the individual shutdown cost was found to be a very material sum. The labor cost, including the gangs' time enroute to and from a particular well, amounts to at least $6.00, and usually very much more, and to this cost must be added the value of lost, or deferred, production, which item alone may represent a loss of $40.00 or more if the well is a fairly good producer. The total cost of a single shutdown, then, including labor, production, belt cuts, and power, but exclusive of the real but inevaluable cost of slip-damaged belting, is seen to be least $50.00 for ordinary good pumping wells. If the average number of shut-downs for tightening the belt, during its whole service period, is eight, then, the total cost of shut-downs is $400.00 for such wells, or approximately twice the full cost of the belt which occasions the loss.

Having completed the survey of fields and of records which elicited these several facts regarding belt costs, it was decided to put the prestretching idea to a practical field test. Accordingly, "dead stretch" curves were prepared from laboratory data for a few makes of belting commonly used. The purpose of these curves was to enable us to cut a length of belt from the roll which would be short of the required length by the amount of dead stretch of the remaining piece, caused by whatever load might be encountered at the yet un-selected well. Attention was then given to the design of apparatus to do the work of stretching a 12-inch by six ply belt, 105 feet in length.

For this purpose, two large double screw turnbuckles, each having a take-up of six feet, and two heavy oak belt clamps were made—all parts being designed for a capacity load of 15,000 pounds.

The apparatus completed, it was taken, together with a dynamometer and set of dead stretch curves, to El Dorado, Arkansas, where an exceptionally heavy well was selected. Two conveniently spaced trees were found (about 135 feet apart) on level ground and one turnbuckle was anchored to one of them, a belt clamp being attached to its other end by means of wire rope and swivel link. The other half of the apparatus was similarly installed at the other tree, excepting that a dynamometer was placed between the turnbuckle and belt clamp. The chosen well had meanwhile been weighed, the net belt pull computed, and the required belt length measured, hence the dead stretch curves were consulted and the new belt was cut short by three-fourths of the indicated amount (it was feared that the curves might be higher for laboratory specimens than for the full length belt). The belt was then placed in the stretcher and force gradually applied until the dynamometer reading conicided with the calculated net belt tension. Subsequent slight take-ups were required for about one and one-half hours, after which the belt came substantially to a state of stress equilibrium. Measurements then disclosed that the dead stretch curves were low, rather than high, but that the elastic elongation was consistent with what had been indicated by laboratory test of short specimens. This

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feature, however, will be discussed at length later on in the article.

After being stretched, the belt was installed immediately and it ran continuously, without slippage, for more than six weeks, when a slight take-up was necessary. Previous belts had required cutting as many as six or more times during a like period.

The practicability of prestretching was thus proved, and it has since become a universal practice with the company by which the writer was then employed.

Cooperation of field men was soon forthcoming, after this test had allayed their fears that the belt would be ruined, and many excellent suggestions were received from them. One of these was that a heavy-duty fence jack be used instead of the slow motion turnbuckles of the writer's first apparatus. The resulting hook-up which is illustrated in Figure 1 was then adopted and later came into general use in all the producing districts. The adaptation of the idea to an ordinary belt stretcher, so that initial tension could be accurately gauged, is also shown in Figure 1. Mr. William Anderson of Cotton Valley, Louisiana, is responsible for this development.

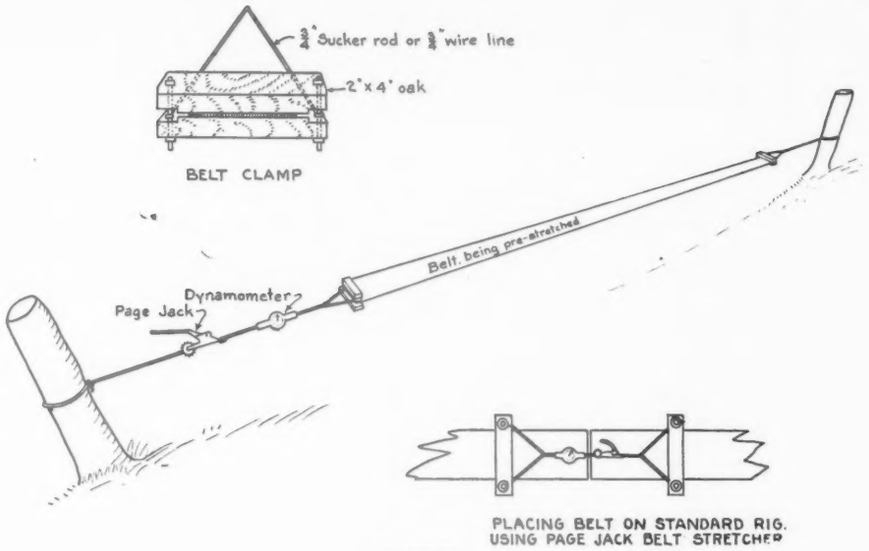

FIGURE 1

Method of pre-stretching belts and placing on standard rig by use of Page fence jack

Hydraulic Stretcher

It was realized from the outset, that the use of a fence jack was a dangerous expedient because its recommended working load would be exceeded more often than not in prestretching large belts, and while every safety precaution aws exercised, such as employing auxiliary snubbing lines to catch the belt clamp in case of jack failure, there were yet many men who were properly afraid of the device. No accidents ever occurred, but it can be easily imagined what amount of damage a heavy belt 100 feet long, under 5000 pounds load or more, could do, if the stretching mechanism should fail suddenly. This contingency led to the development of a hydraulic prestretcher by Superintendent Sutton of Corsicana, who already had patented a similar device as an ordinary installation stretcher. Sutton's apparatus practically eliminates all danger previously attaching to the prestretching operation, and affords a much less laborious application of power besides, hence it is expected that this mechanism will supersede the one illustrated in Figure 1. The Sutton belt stretcher is shown in Figure 2. It is identical in principle with the Sutton pre-stretcher.

Latent Stretch

Experiments in pre-stretching belts soon brought into prominence a phenomenon which was noted in the writer's early investigation of the elastic properties of belting, but which was not regarded as very important at that time. It is still considered to be a matter of secondary concern, but is a factor to be recognized and coped with in actual belting practice.

When the load on a highly stressed belt is rapidly released, the recovery, or contraction, of the belt will be as rapid as the rate of load release until the belt is entirely free of external force, where-after it will experience an additional recovery, or sluggish contraction which is small in amount comparatively with the very rapid initial recovery. Subsequent application and brief maintenance of a relatively lighter load will cause the belt to again stretch out in the amount of this secondary contraction. This stretch has been called the "latent stretch" to distinguish it from the other elastic properties. The writer knows very little of a quantitative nature about this phenomenon because he has not had the opportunity of making a specific study of it. Such a study would provide excellent university thesis work.

At any rate, much of the initial advantage of prestretching will be lost if proper measures are not taken to compensate for latent stretch. Two or more hours may often elapse between the finish of the prestretching operation and the installation of the belt on the rig, and, therefore, the secondary contraction will be complete in almost all cases. The only way to remedy the situation is to increase the intended initial tension sufficiently to yet have "normal" tension in the belt after the latent stretch has become real. By normal tension is meant the minimum initial tension required to prevent shippage in any given case. The tension required to develop the full latent stretch must be determined for the make and size of belt used and for the prestretching load. Curves could be constructed from field data depicting the trend of latent stretch for the various types of belting, but the writer has been unable to do such work because of other duties unrelated to belting.

Discrepance of Laboratory and Field Results

It was stated in a previous paragraph that the elongation characteristics of full length belts were higher than those of short specimens tested in the laboratory. The differences are so marked that the writer feels justified in expending considerable space in illlustrating them. The following tables show A. P. I. specification characteristic initial elongation, the writer's laboratory determinations of elastic elongations, and the actual values observed in tests of belts 100 feet, or more, in length. All values are approximate.

TABLE 1 PRESTRETCHING

Tests of 12-Inch 6-Ply (or Equivalent) Belts 105 Feet Long

No.	Type Belt	Lbs. per in width	Initial A.P.I.	Elo. Act.	Elastic R.B. Lab.	Elo. Act
S-8	Stitched Cotton	...630	8.3	10.4	2.7	4.7*
C-10	Do.	730	9.3	9.6	3.1	2.5
S-10	Do.	500	6.9	12.9	2.2	2.9
C-12	Do.	420	6.0	6.2	1.9	2.1
S-6	Rubber	720	6.5	8.2	4.9	4.2
C-3	Do.	540	5.5	8.6	4.3	5.4
S-11	Do	540	5.5	7.5	4.3	4.5
C-9	Do.	730	6.5	6.3	4.9	5.0
S-1	Woven Cotton	480	8.5	5.7	2.7	1.5
C-8	Do.	739	10.5	7.7	3.4	2.4
S-4	Do.	570	9.2	5.6	2.9	2.8
C-4	Do.	540	10.5	9.3	3.4	3.2
S-7	Do.	420	7.8	7.1	2.4	2.3
C-1	Do.	500	8.7	5.9	2.7	2.3
C-11	Hair	540	5.9	8.2	3.5	3.1
S-12	Do.	500	5.6	12.4	3.4	6.6*
S-9	Do.	540	5.9	12.5	3.5	4.5
C-6	Do.	540	5.9	13.	3.5	3.3

*Proved Defective.

The most outstanding and significant fact revealed by the data of Table 1 is that there is fairly close agreement between laboratory and field determinations of elastic elongation and no agreement, or rational relation whatever, between similar determinations of initial elongation. This circumstance lends weight to the writer's contention, first stated in 1926, that elastic elongation is the only innate stretch characteristic of belting, and that "initial" elongation might be altered either intentionally

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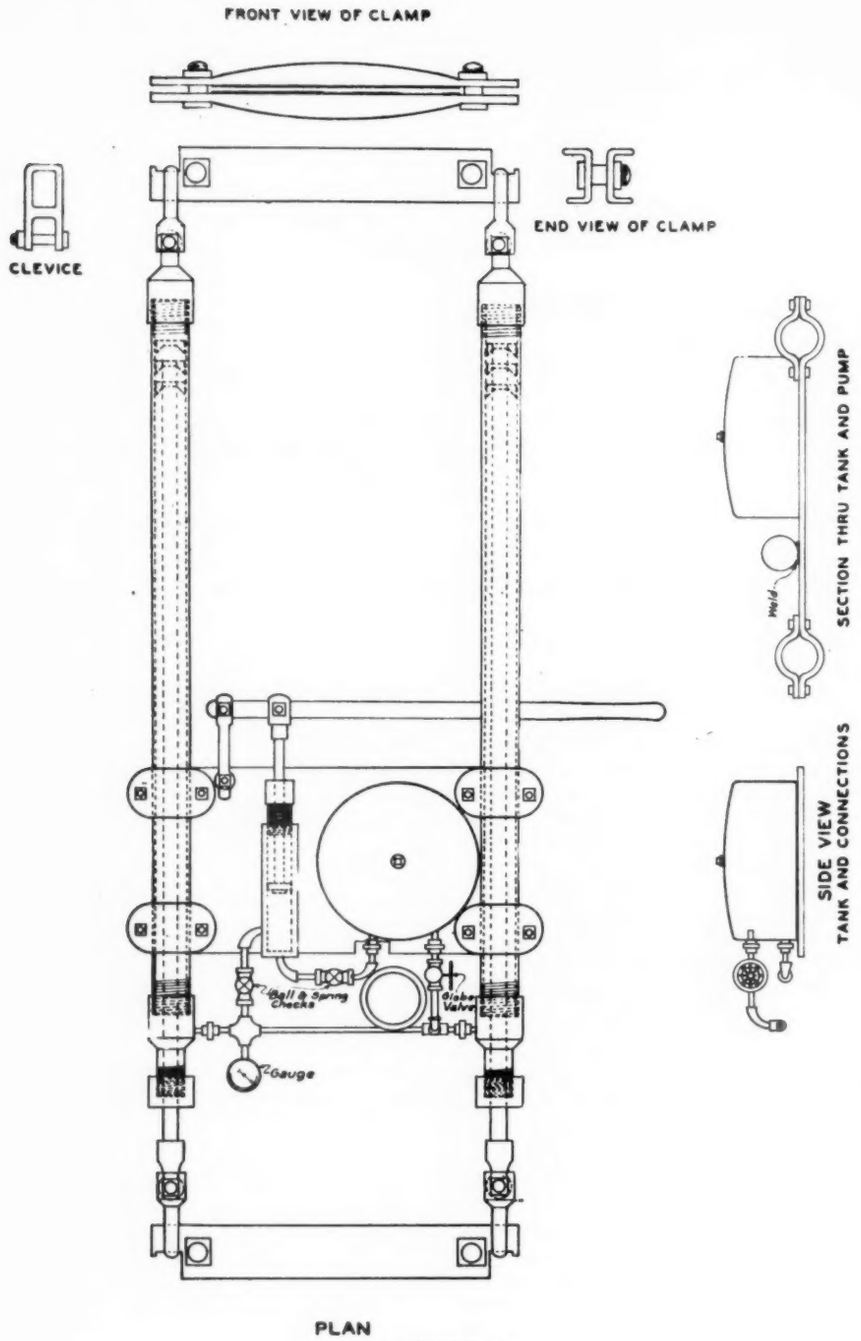


FIGURE 2
Sutton Hydraulic Belt Stretcher

or casually in the course of manufacture. The facts are, apparently, that total (or initial) elongation is merely the sum of a uniform variant (elastic elongation) and an erratic variant (inelastic elongation). The trend of the former being due primarily to the structure of the belt and the trend of the latter being influenced by such variable factors as curing tension, impregnating compounds, impregnating technic, tightness of the final roll, etc., etc. Obviously then, the inelastic elongation may vary between sections of the same belt and almost certainly between different rolls or lots, but so long as there is no change of type-structure, there is not likely to be much change in elastic elongation. This explains the writer's advocacy of elasticity curves as the basis of belting specifications, and his statement that initial elongation specifications alone have no useful meaning either as a guide to manufaucturers or as a protection to purchasers.

Since the practice of pre-stretching belts was inaugurated by the writer, several hundred large and costly belts have been given that mechanical treatment and not one of them has been damaged. On the other hand, the effected economies directly attributable to the practice have exceeded the most sanguine expectations. Very few pre-stretched belts have required tightening during the first 1000 hours of continuous service, and in the cases of those that have required such adjustment several have subsequently proved to be inferior or defective in some respect, and review of the installation records of others indicated either insufficient initial tension to compensate for latent stretch, or insufficient pre-stretching load. These are matters that can only be corrected through exercise of close supervision of all installations by the maintenance engineer in cooperation with field executives.

One of the most promising of the incidental advantages of pre-stretching practice, from the standpoint of the user, is that it affords him a means, and the only means, of testing each belt in its entirety before he puts it to work. If the behavior of the belt under the necessary pre-stretching loads is not congruent with what experience has taught him to regard as the standard of the make of belt in question, he may immediately reject it, and thereby save himself the excessive expense of trying to use a defective belt. The manufacturer will probably thank him also for returning a belt that would damage his good reputation. One such case as this is already a matter of record, and there will undoubtedly be many others because no manufacturer of anything can be expected to attain to perfection.

Another of the incidental advantages of pre-stretching is that it may enable one to measure, with a fair degree of accuracy, the initial tension applied to a belt, without use of a dynamometer. Knowing that elastic elongation is a function of the applied load, (and the inelastic elongation having been "removed" by pre-stretching), he has only to mark off a definite length on the belt, consult his elastic elongation curves to see what increment of stretch is proportional to the desired initial tension, and then tighten the belt until the distance between the two marks has increased by the amount of that increment. This method is, of course, not precise in that it ignores latent stretch, but it is a useful tool never-the-less. For purposes of checking initial tension in belts that have been run long enough to develop the latent stretch completely, the method is practically accurate and it is only necessary to draw up a section of belt until fully slack, mark off a distance, release the belt again and note the increase of length between marks. Comparison with the appropriate curve then shows the net initial tension. The writer has made use of this principle in the design of a small motor driven photographic apparatus for measuring quickly and accurately the tension in any running belt.

For the guidance of field men, previously inexperienced in such exacting work as pre-stretching belts, a table of detailed instructions was prepared, and since these have proved satisfactory they are here presented for the use of those readers who may want to inaugurate such practice.

Pre-Stretching and Installation Instructions For Oil Field Belting.

1. Before installation of belt, check

alignment of all pulleys and bearings and make necessary adjustments and repairs.

2. Tape the distance around pulleys to determine proper length of finished belt. Use a steel tape and pull it fairly taut while measuring.

3. Unroll the belt and cut one end perfectly square. Use a large carpenter's square and a sharp knife. Don't use a saw and don't use a hatchet. The former damages the belt ends and induces boot-legging and a square joint cannot be made with a hatchet.

4. Measure back four (4) inches and draw a line across the belt with a colored pencil or chalk. Use the carpenter's square again and be sure this line is visible as well as square. The purpose of this line is to square up the belt in the prestretcher.

5. Make a mark on the belt at the taped length of the drive but *do not cut the belt there.* Use the same tape used for measuring around the pulleys and *measure from the colored line,* at the end of the belt.

6. Consult your "dead stretch curves"' for the make and size of belt being installed and see how much the dead stretch will be for the load this belt must pull. Curves not available must be developed from field observation for each type and size of belt.

7. Measure back three-fourths of this distance from the mark made at the taped length and cut the belt off square. The reason for not cutting out the full amount is that there are differences in dead stretch characteristics of two belts of the same make.

8. Draw a colored line (with the square) four inches back of this end, to line up the belt in the pre-stretcher.

9. Clamp the ends of the belt in the two belt holders so that the faces of the holders are exactly even with the marked lines all the way across the belt. This insures an even pull on the belt.

10. Operate the pre-stretcher until the desired load is registered on the dynamometer. (Chains should be extended all the way at time belt is inserted in clamps in order to allow for maximum stretch.)

11. Keep operating the pre-stretcher as the dynamometer pointer falls below the required total load.

12. When the belt comes to equilibrium, (that is, when the load on the dynamometer remains practically constant without further taking up of the pre-stretcher), release the load to whatever initial tension is desired.

13. Then measure off the taped length of the drive (starting at the colored line at one of the clamps) and mark another square line at this distance. Release all load and cut the belt on this line. Note that this leaves an excess of four inches of belt, the amount in one clamp, which will provide against any errors in measurement or calculation.

14. Take the belt *immediately* to the rig where it is to be installed and put it around the pulleys by hand. *Then use a belt stretcher* and tighten the belt to the desired initial tension. Some belts may require higher initial tension than others but all should be installed as loose as possible, without letting the belt slip. Remember, however, that the initial tension must be high enough to provide for the "latent stretch" which is due to the slight creeping back of the belt after pre-stretching and before installation. The tension will drop as this stretch works out.

15. If your measurements have been accurate and the pre-stretching thoroughly done, it will probably not be necessary to cut out much of the belt to make joint. At any rate, make a butt joint if possible with some approved device.

16. At the end of the first week after installation of the belt (first weekly inspection date) stop the rig and tighten all fastener bolts. Always carry some extra bolts with you on weekly inspection trips and keep the joint in good condition. The joint is the weakest part of the belt and most troubles can be traced to it. Hinged joints must be kept properly lubricated with castor oil or they will soon fail. (Mineral oil will rot the belt.)

Having in mind the objects and advantages of pre-stretching practice, the engineer, or superintendent, should analyse each belted drive as completely as possible, and preserve a record of his findings, and of what he has done in each case.

Summary

The foregoing discussion has admittedly been somewhat rambling and disjointed, but the reader will probably recognize the difficulty of presenting a subject of so many unrelated aspects within the space of a brief article.

In summary, it may be said that the prime requisite of successful pre-stretching practice is direction of the work by someone who really understands belts; not merely one who has observed a few thousand of them in operation and perhaps installed a great many himself, but who visualizes a belt as a complex and partially elastic structure—an unfinished structure when new, and who, being thoroughly familiar with its elastic, inelastic, frictional, and other physical properties, is able to foresee accurately its internal reactions to any given set of external influences. He must, of course, also be able to design new installations and analyze existing drives.

Under the direction of a competent man, pre-stretching practice can be made the medium through which to accomplish numerous important economies, the most important of which are:

1. Practical elimination of "break-in" of new belts.

2. Reduction in number of shut-downs necessary to tighten belt.

3. Gain in production otherwise lost because of shut-downs for belt tightening.

4. Saving of labor cost for same reason.

5. Elimination of slippage, otherwise resulting from development of "dead stretch" in new belts.

6. Saving of power cost otherwise resulting from slippage of new belt during period between take-ups.

7. Avoidance of damage to transmission surface, otherwise resulting from slippage during breaking-in period.

8. Increased transmission efficiently throughout life of belt, due to maintenance of high coefficient of friction, otherwise reduced by glazing of surface from early slippage.

9. Reduction of initial tension since it is not necessary to anticipate lessening of tension due to development of dead stretch.

10. Greatly increased life of belts due to sum of the above effects.

11. Saving of considerable belting material due to cutting belts short by amount of dead stretch before pre-stretching. This list of economies is somewhat of a postulation and it is not intended to suggest the practice of pre-stretching as a panacea for belt troubles. Few of the factors enumerated are absolute and capable of full attainment, for the good reason that no belt is an absolutely stable structure, even after pre-stretching. Moreover, any complex structure subjected to repetitive tensional stresses, suffers progressive fatigue of its members as well as frictional destruction at its hinge points. A belt is such a structure, and under these influences, it will eventually experience a fatigue stretch which is not to be mistaken for a part of either the original dead stretch or the original latent stretch. Prestretching will, of course, neither eliminate nor defer, either the development of fatigue stretch or the adjustment it necessitates: Pre-stretching is useful only in "removing" the original inelastic elongation.

Such terms as initial elongation, inelastic elongation, elastic elongation, elastic efficiency, region of elastic failure, latent stretch and fatigue stretch must be recognized as representative of properties that are variable between, as yet, indefinite limits. Even the property of elastic stretch, which is by far the most reliable of them all, is probably subject to some modification during the life of a given belt. The conception of belting, however, which this nomenclature of properties implies, is considered, by the writer at least, to be an approach toward the truth because it has enabled the achievement of higher power transmission efficiencies, as well as the elimination of vast wastes that formerly were considered unavoidable in the oil fields. Prestretching has been responsible for the most important of these accomplishments.

XUM

EXPERIENCES ABOVE THE ANDES

By ROY E. LEIGH

Special Foreign Representative

—Photo Courtesy of "Scadta"

Cartagena, Colombia. Tropical Oil Company tank in background.

AIRPLANE SERVICE

MAKES HOURS OF DAYS TRAVEL

in SOUTH AMERICA

LEAVING Bogota, we passed from a shivver to a sweat, as Will Rogers might say, in about six hours, the end of our rail journey finding us again at Girardot and awaiting with keenest pleasure the resumption of travel by air.

As soon as the passengers and mails had been transferred from the railway station to the airport, the plane was lowered down an inclined run-way until its pontoons were afloat in the tumbling torrent of the Magdalena, which drops 13,000 feet from its mountainous source before reaching Girardot. After some matter-of-fact attention to routine details, such as weighing the passengers and mails, we found ourselves out in the middle of the river, headed down-stream at an amazing rate of speed, helped onward at first by the rushing current.

The instant we passed under the high bridge which spans the river at Girardot, the pilot pulled back on his controls and we were again on wing. The trip down-stream was uneventful, except for a rain-storm which added to our experience in flying. The rain-drops seemed to defy the law of gravity, as, instead of falling perpendicularly down the window-panes, they were blown across in straight, unfaltering horizontal lines. Rain water sprayed straight backward off the wings of the plane, as if expelled from high pressure pumps, and not at all like water falling perpendicularly off an eave. It is only by little things like that, and by sticking one's hand out the window, that it is possible for the passenger to judge the speed of a plane travelling high in the air.

We spent the night at Puerto Berrio, in the new and modern Hotel de Magdalena, built and owned by the Department of Antioguia; and, at day-break next morning, we were again in the air, headed down-river toward Barranca Bermeja, which we reached in about one hour.

Stepping ashore directly from the hydro-

XUM

Colombian Indians Inspecting Scadta Plane at Sautata, Colombia
—Photo Courtesy of "Scadta"

plane, which had drawn up to the river-bank, we were fortunate in being able to board a departing train on the Tropical Oil Company's private railroad running inland to El Centro, the company's camp and industrial center.

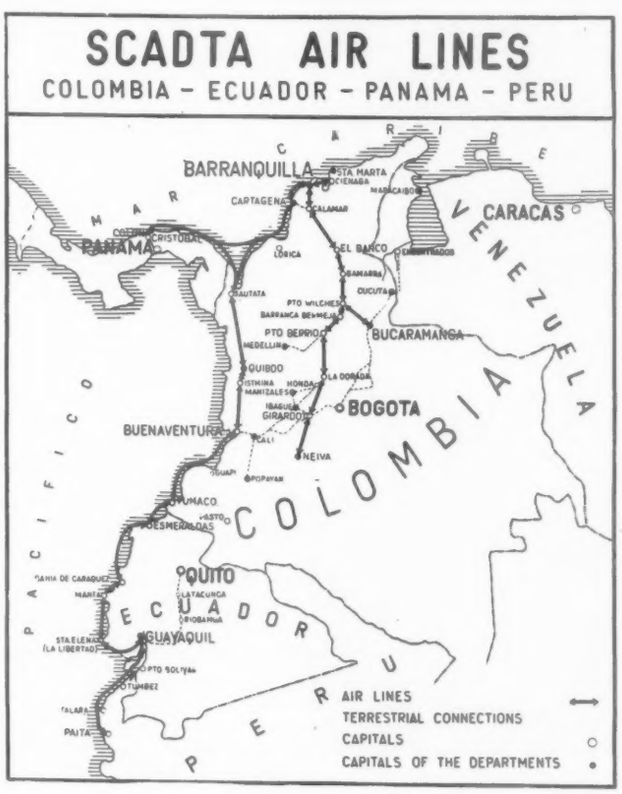
Some Contrast

Returning from the Infantas field a few days later, we had a brief sample of what the long river trip might have been, in that the three-hour trip from Barranca Bermeja to the air-port at Puerto Wilches was made on a steamer. In looking over the boat, we noticed a quarter of beef hanging in the galley, without ice. It probably had been hanging there for several days, perhaps throughout the trip, as it was well along toward putridity. We disclaimed hunger at lunch time; but thirst could not be denied in such a sweltering climate, despite the little matter of a dead donkey floating by in the very water from which our drinking supply was drawn.

At Puerto Wilches, where we spent the night, we had very little trouble, as we soon became accustomed to the smell of the slime and swill in the streets. True, there were a few fleas which disputed the comforts of the bed; but, then, one cannot be too fastidious if he would travel in the tropics.

Thanks to the fleas, we were awake early next morning, in plenty of time to enjoy the beautiful sight of two silver-gray Scadta planes dropping down out of the mists of the dawn, they probably having left Puerto Berrio at about daybreak. We reached Barranquilla, 400 miles distant, in about four hours, in ample time for lunch.

Two days later, we left Barranquilla at eight o'clock, en route to Guayaquil. Our first stop was at Cartagena, where we had the advantage of a real bird's eye view of the massive walls and fortifications built during Spanish colonial times, to protect the city from such marauding enemies as Sir Francis Drake, Admiral Vernon, and Baron de Pointis. Following the coast-line in a southwesterly direction, we turned southward into the Gulf of Uraba and stopped at Sautata, where we met an eastbound plane which had left the Canal Zone at about the same time we departed from Barranquilla. Taking over the south-bound mail and passengers, we flew southward up the Atrato River, which parallels the Pacific coast at a distance of about 50 miles inland, until we reached Quibdo, a primitive saw-mill settlement deep in the tropical jungle. Leaving there after having replenished our fuel supply, we hopped over a narrow divide and dropped down into the valley of the San Juan River, which occupies about the same longitudinal position as the Rio Atrato, except that it flows in the opposite direction, emptying into the Pacific Ocean a few miles north of Buenaventura.



View of Pacific

Nearing Buenaventura at about four o'clock in the afternoon, we caught our first glimpse of the Pacific Ocean, calm and serene as it was when Balboa found it. After circling the town to give his passengers full measure for their money, the pilot dropped down to water level and the plane came to rest on the bosom of the *Bahia del Cocho,* where a fast motor launch was waiting to take us across to the hotel.

Buenaventura is a filthy and most unattractive negro town, whose only excuse for existence is to furnish port facilities for goods imported into and products exported from the more progressive Cauca Valley, lying inland between the Western and Central Cordilleras. Travellers are wont to suggest that the place is misnamed; that it should be called Malaventura. Here again we found poor accommodations; and, remembering the port's unsavory reputation for fever, small-pox and bubonic plague, we were glad when daylight found us in the Scadta launch crossing the bay toward the hangars.

After the pilot had raced back and forth across the bay two or three times without being able to take off, the passengers began to wonder what was wrong. Soon a second plane was brought out of

the hangars, and it raced back and forth ahead of the heavily-laden ship, as if the two pilots were playing tag with each other. Later, we were told that the pilot of the leading plane was trying to create a breeze,—to fan us into the air, so to speak,—it being a very still morning. This proved unavailing; and we were forced to unload some of the baggage and a box of repair parts so as to lighten the ship. Later in the day at Bahia de Cara'quez, where we picked up a fourth passenger, we were able to ascend with no difficulty, being helped by a strong breeze blowing in from the Pacific.

Our route was along the Pacific coast all the way between Buenaventura and Guayaquil. We met and passed a number of steamers plodding up and down the coast, needing days to traverse the same distances which we covered in hours. Always, the pilot remained within gliding distance of the shore-line, despite the fact that the passengers would have liked to have made a few digressions inland and out to sea.

Crossing the Equator

Our first stop was at Tumaco, a few miles north of the Ecuadorean border, where we requested the pilot to signal to us when crossing the equator. This gave him opportunity to get off the old wheeze, telling us that we would "feel the bump." Other stops for mail and gasoline were made at Esmeraldas and Las Salinas.

On leaving Las Salinas at about four o'clock, we flew over the Santa Elena or Ancon oil field, located on Ancon Point about 95 miles west of Guayaquil. We reached Guayaquil about one hour later, covering a distance which required at total of 20 hours when we retraced our steps a few days later by boat, after having made necessary arrangements with the agents of Anglo-Ecuadorean Oilfields, Ltd., and Ecuador Oilfields, Ltd., at Guayaquil.

Thus, except for a brief hop returning from Santa Elena to Guayaquil one week later, we finished the aerial leg of our South American journey, having covered nearly 3000 miles in less than four days of flying. Travelling by boat, the same trip might have required from 25 to 50 days, or longer. Not once in about 30 hours in the air did we hear a motor falter, and there was not one single occurrence to mar the pleasure of our flight. Every landing was perfectly executed demonstrating the consummate skill of the veteran pilots, all of whom were credited with more than 100,000 kilometers of commercial flying before joining the Scadta organization, and several of whom have flown more than one-half million kilometers over the airways of Colombia and Ecuador.

Indians inspecting plane

—Photo courtesy of "Scadta"

The Scadta planes have been in operation over the Magdalena River for more than eight years; but the extension of the service to include Panama and Pacific ports was made only recently. Since the inauguration of the Pan-American Airways service from Miami to Panama and Caribbean ports, it is now possible to fly from New York, Houston, Tulsa, or any point on the commercial airways of the United States, all the way into the most remote and hitherto inaccessible oil fields of Colombia, Venezuela, Trinidad, Ecuador, and Peru.

The Colombian airways service has proved a great boon to the oil industry of the country, affording rapid transit and means of quick communication in what otherwise would be one of the most backward countries of the world, insofar as transport facilities are concerned. Geologists and engineers make frequent use of the company's hydroplanes and aeroplanes for making reconnaissance and preliminary explorations.

Although the republic has about 15 different short lines of railway, they are not co-ordinated and seldom connect with each other. When one travels otherwise than by air in Colombia, his journey is broken by frequent changes from river boats to trains, from trains to automobiles and from automobiles to pack-mules.

By arrangement with the Colombian government, the Scadta company operates an independent postal system, paralleling the national system, insofar as the Magdalena and Pacific ports are concerned, by means of which letters reach their destinations in the merest fraction of the time required by the government's postal service. In each of the cities which it serves, which include nearly all of the commercial centers of the country, the Scadta company has established private postoffices, usually next door to the national *correos*. Letters are received, transported, and delivered without ever leaving the hands of trusted employees of this efficient organization.

The company also issues its own postage stamps, although national postage must be applied in addition.

XUM

Geophysical Instruments *And* Methods

By MARK C. MALAMPHY
Consulting Geophysicist

NOT so many years ago oil fields were found by chance and developed by strong arm methods. Holes were drilled. They were either producers or non-producers. There was little reason used in making locations. It was primarily a hunch proposition.

Then the geologist entered the field. He demonstrated that producing oil sands are usually found in connection with structural deformities in the sub-surface strata which so distorted the oil bearing sands as to cause the oil to collect in pools which were more or less confined to a small area and which conformed to a certain extent with the structural deformation. He demonstrated that these sub-surface structural deformities were reflected to a greater or less extent on the surface.

Work of the geologist comprises two distinct methods of analysis of sub-surface conditions. First, he may locate and outline structural conditions from surface indications. Second, using these surface indications in conjunction with well logs he may map the sub-surface strata in a more or less definite manner, depending on the amount of data he has at his disposal. Assuming that he has located a previously unknown structure, he may from his study of the surface make well locations that may or may not prove his reasoning of the sub-surface conditions correct. This was a decided improvement over the pure guess of the old time operators, but still left much to be desired. The geologist is restricted in the amount of data at hand in a new area.

With development of geophysical instruments to their present state, the geologist was offered the opportunity of increasing the amount of data he could gain on a newly discovered structure. Not only are these instruments capable of giving the geologist valuable data on the sub-surface conditions existing, which is a decided advantage over his correlation with the surface structure only, but they have demonstarted their efficacy in locating structural conditions in areas where there are no surface indications evident.

These instruments were quickly adopted by the various oil companies and it was not long before they had proved their worth. It is to be distinctly understood, however, that while these instruments offer very valuable supplemental information to the geologist, in no sense are they a substitute for the geologist. Best results will be obtained if both geologist and geophysicist recognize their own limitations and work in cooperation.

Geophysical Methods

Modern geophysical instruments are to be distinguished from the witch wands, doodle bugs and divining rods that have been used for ages for the location of anything of value. Geophysical instruments are based on known physical phenomena and follow known laws. The magic wands, etc., have no scientific reason for their existence other than a phycological fact that some people persist in believing in their supernatural powers.

It is not to be understood that geophysical instruments and methods offer a panacea for all the ills of the petroleum industry. They are valuable aids to the producing company, and while somewhat expensive to operate, more than repay the money expended in their use.

There are a number of types of geophysical instruments and various methods of application of each type. Some instruments are better adapted for use under particular geologic conditions than others. In the case of certain instruments, a different method of application will give better results in a particular locality. This is particularly true of the seismograph. It is impossible in the limited space available to take up in its entirety any of these methods. An attempt will be made to give some information of value relative to the more important methods and factors in their application to the location of unknown structures and the contouring of both known and unknown structures.

The more important geophysical methods may be classed as magnetic, gravitational, electrical and seismic.

The gravitational and seismic methods have been used to a greater extent and with more success than the others. These two methods have established an impressive record in the Gulf Coast. Gravitational and magnetic methods have been used with considerable success in Texas, Kansas and Oklahoma. Electrical methods have proved more successful in the search for ores than in the search for petroleum producing structures.

Magnetic Instruments

The instrument most commonly used in magnetic measurements for geophysical purposes is the improved magnetometer (Schmidt - Lloyd). This instrument is made in two types for investigating either the vertical or horizontal component of the earth's megnetic field. It is an extremely sensitive yet simple and practical instrument for field work. Its small size and light weight is very advantageous from the standpoint of ready portability.

By means of the magnetometer, one can readily locate and outline strongly magnetic deposits. With more careful work, it is also possible to locate and outline with a lesser degree of accuracy weakly magnetic deposits or even diamagnetic deposits. The application of these instruments to explorations for petroleum structures therefore depends on whether or not the particular strata in which the structure occurs differs in its magnetic properties, from other possibly non-conformable strata in the same locality. While this condition has been found to exist in many cases it does not necessarily exist in all cases. The converse is also true, magnetic anomalies indicative of structural conditions may be caused by a variation in the magnetic properties of the sub-surface strata and not by structural conditions.

However, the magnetometer is a relatively cheap instrument and is rapid and inexpensive in operation. As a consequence, it is very valuable, in spite of its deficiencies, as a reconnaissance instrument to be chacked at suspicious localities by other methods. This is usual practice in West Texas.

Magnetometers are frequently used in groups of three or more. One instrument is kept stationary to measure the diurnal variations, and the others make the actual field measurements. In reconnaissance work, stations are taken at moderate intervals on lines separated by about one mile. The temperature is recorded at each station and the readings corrected for temperature as well as diurnal variations. In West Texas, it is common practice to follow up magnetometer surveys with the torsion balance. In such instances, in normal areas the torsion balance stations may be made on lines separated by as much as 10 miles. Such checking eliminates the possibility of the magnetometer passing up anything and results in a decrease in the expenditures necessary to explore the entire area with the slower torsion balance. Due to the salt dome's being very weakly diamagnetic, the indications recorded by the magnetometer on this type of structure are somewhat questionable, and insomuch as the torsion baiance and seismograph are much better adapted to work on this type of structure, this instrument has not been applied to any great extent in the Gulf Coast.

Dr. Barton[1] says, "The magnetometer

[1]Applied Geographical methods in America, by Donald C. Barton, Economic Geology Vol. XXII No. 7, Nov. 1927, page 661.

has been shown to give interesting and valuable results in the Texas Panhandle and along the similar Hambro-Nocona-Bulcher - Era Ordovician - Pre - Cambrian buried ridges, but elsewhere seems to be unreliable in its indication of oil structures."

A single magnetometer can be purchased for less than $1000 and only one man is required to operate it. A relatively large number of stations can be made in one day. It is however, advisable to provide a second instrument to be used as a base instrument for recording the diurnal variations. If a party is composed of one base instrument and three field instruments, large acreage may be efficiently covered at a minimum of expense and time.

Gravitational Instruments

The gravitational force at any place, the force which the earth exerts on a mass of one gram, is the resultant in both magnitude and direction of the individual effects of all the elements of mass of the entire earth, according to Ambronn.[2]

Bouguer, in 1740, compared the mass of a mountain to the mass of the earth by suspending a plumb bob on either side of the mountain and measuring the deviation of the suspension from true vertical. There were two forces acting on the plumb bob, the attraction of the earth as a whole which was vertical and the attraction of the mountain which was nearly horizontal. The direction of the plumb line was the resultant of these two forces and if the mass of either was known or estimated the mass of the other could be determined. A similar experiment could be carried on to determine the mass of a salt dome, if sufficiently sensitive instruments were employed.

Two types of instruments have been developed that are applicable to the study of sub-surface structural conditions by measurements on the gravitational field. They are the gravitational pendulum (Kater's Reversible Pendulum) and the torsion balance (Eotvos).

The pendulum is used to accurately determine the actual force of gravity. By observing the period of the pendulum and knowing certain constants of the instrument, the absolute force of gravity may be calculated. The data must be carefully corrected for temperature and other disturbing effects. With this instrument, a small abnormal increase in the force of gravity will be recorded when the instrument is set up directly over a structure composed of denser material than the overlying strata. One of the difficulties of applying this instrument to field work is the necessity of extreme accuracy in the determining the period of the pendulum on which all calculations are based. It has not been used to any great extent for geophysical prospecting.

The torsion balance, which measures among other factors, the horizontal gradient of gravity, has been found to be a more practical instrument for such work. The torsion balance consists of a light bar suspended from the top of the instrument by a very fine torsion wire. On one end of this bar is fastened a small gold or platinum weight, and a similar weight is suspended by a fine wire from the other end of the bar. Due to the different height of these two weights, they lie in different gravitational levels, and if structure exists the horizontal component of the force of gravity will be greater on one than on the other, causing a rotation of the beam. This rotation will be opposed by the torsion effect of the suspension wire and the beam will come to rest when all forces are in equilibrium. It is usual practice to enclose two such instruments in one case, and to take readings on both at the same time. The balance is enclosed in triple walled cases and in a double walled hut to reduce temperature effects which are troublesome. In operation, the rotation of the bar is measured with the instrument oriented in three directions separated by 120 degrees. With the two balances, separated by an angle of 180 degrees, this gives readings every 60 degrees, and from the data obtained the magnitude and direction of the horizontal gradient may be computed. Corrections must be made for temperature, surface irregularities (terrain corrections), and for latitude and the effect of the rotation of the earth. The time required for the balance to come to rest varies from 30 minutes to over one hour. The usual time being about 50 minutes. With two check readings, which are usually taken as a precautionary measure, the time required to make one station exclusive of transportation time will be about four or five hours.

Computation Assumptions

Computations of torsion balance data are routine and tedious, rather than difficult. The geological interpretation is more difficult. Use of the torsion balance to indicate and outline structure depends on the following assumptions: (1) There is a definite relation between the size, shape, depth and relative density of a mass causing an anomaly observed at the surface and the anomaly. (2) Geologic structures are due to the presence of foreign intrusions into the basic beds or deformations of these basic beds due to folding, faulting, etc., and these structural conditions actually cause an abnormal distribution of mass, the effect of which may be observed.

Differences in relative density of certain strata and non-uniformity of overlying beds introduce errors which may not be compensated for, and as a consequence, the accuracy of the data calculated from the observed anomalies is somewhat variable. This fact becomes more important in profile work than in reconnaissance work.

Under ideal conditions a skilled interpeter may deduce a very acceptable profile of an unknown structure. Under average conditions, a very fair approximate outline of the structure may be obtained. Under less favorable conditions only the definite presence of structural conditions may be determined, while in some cases the data may be suspicious and unreliable.

It is worth while to give some idea of the magnitude of the forces measured by the torsion balance. The unit used is termed the Eotvos and is equal in magnitude to the one trillionth part of the force of gravity. Anomalies usually encountered under structural conditions will average up to 40 Eotvos units and seldom exceed 150 Eotvos units.

The torsion balance has proved very satisfactory for location of salt domes in the Gulf Coastal regions of Texas and Louisiana. These structures may be located as either maximas or minimas, depending on whether or not the dome is covered with the usual heavy cap rock.

The torsion balance has also proved effective in detailing faults and is applicable to a lesser extent in location of fault structures. The torsion balance has been proved effective in exploring for structures in West Texas and in the Texas Panhandle, also in Southern Oklahoma, Kansas and Louisiana. It has been used in California and is used to a very considerable extent by the Dutch Shell and the Anglo Persian Oil Companies in foreign countries.

It is interesting to note the expenses incurred in reconnaissance exploration with this instrument. The initial cost of one instrument, with the usual accessories, is in the neighborhood of $6000. At least one automobile and not less than two men are required for each instrument. Stations are usually made at intervals of one mile, on lines one mile apart, for reconnaissance work. About five hours is required for each station. A more economical procedure is to operate two instruments on one party, 24 hours per day. With a crew of about seven to 15 men and three to five cars, about 40 stations can be made weekly.

Electrical Methods

In the number of various theories and methods of applications, the electrical methods cover a very wide territory in the field of geophysical prospecting. Some of these methods date back to the early part of the last century. However, they were primarily intended for use in the search for metallic ores and have enjoyed some success in this field. It is only recently that the attempt to apply them to the exploration for petroleum structures has been made, and litle data is available on his phase of the subject at the present time. The magnetic, gravitational and seismic methods are only effective in locating and outlining structural conditions. It is left for the geologist to reason out whether or not oil is present on these structures, and if so, where is the most likely place to drill. There is a possibility that some of these electrical methods may eventually prove effective in locating the oil sands direct.

The various theories on which these electrical methods are based may be divided into the following classes: (1) Methods involving the measurements of natural earth currents which are due in part to electro-chemical action between the various components of the earth's crust. (2) Methods involving the use of direct current introduced into the earth by electrodes buried near the surface. (3)

(Continued on page 72)

[2]"Elements of Geophysics," by Richard Ambroun, page 8, McGraw Hill Book Co., 1928.

Announcement!

THE Elliott Core Drilling Company has transferred, effective July 1st, 1929, to the Reed Roller Bit Company of Houston, Texas, all of its stocks of material and machinery and personal properties situated in the territory east of the Rocky Mountains in the United States, together with the manufacturing rights on Elliott Core Drills.

The Reed Roller Bit Company will retain the experienced men now employed by the Elliott Core Drilling Company, thereby assuring the users of Elliott products the same high type of service and quality of product heretofore given by this company.

We respectfully solicit for the Reed Roller Bit Company the same co-operation that it has been our pleasure to enjoy, and trust that this transfer will meet with your approval.

ELLIOTT CORE DRILLING CO.
850 Subway Terminal Building
LOS ANGELES, CALIFORNIA

Export Office:
150 Broadway, New York

Elliott core drills

MIDNIGHT OR MIDDAY

When an oil man is fighting against time: to beat a neighboring well to the pay sand; to save the awesome forces of nature from blowing the derrick and all the machinery to smithereens; to be the first to get the flush production of a new field .... then it is that TIME counts whether it is DAY-TIME or NIGHT-TIME. Then it is that you can depend upon Norvell-Wilder getting machinery and tools to your men who are working heroically against the bogie — time.

At **MIDNIGHT** as well as MID-DAY you will find Norvell-Wilder men working with you with as much interest as if it were their own well at stake. When you make NORVELL-WILDER your Supply House, you get not only the advantage of quantity buying of tried and proven oil field equipment, but you get that **extra value — Midnight or Midday Service** which so often means big money to you. **ALWAYS — CALL A NORVELL-WILDER MAN.**

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BEAUMONT HOUSTON SHREVEPORT FORT WORTH

St. Louis-Pearson Area Coming Rapidly to Forefront

By WARREN BAKER
Staff Representative

TULSA. — Oklahoma's most active area, and one of its most promising, is the north half of townsite 7-4e, in the vicinity of the Pearson and St. Louis pools, Pottawatomie County.

The St. Louis-Pearson Link area, as it is commonly called, has come to the foreground rapidly during the past month as the result of a number of very important strikes. First among the new discoveries was the finding of Hunton lime production in Section 2-7-4 by Keistler & Manning, Martin & Erwin, McGraw Oil Company, Sinclair Oil & Gas Company and Shaffer Oil & Refining Company. Several Hunton lime wells have been completed in the vicinity.

Independent Oil & Gas Company's Barrows 1, SWc NW NW Section 1-7-4, east offset to the discovery Hunton lime well, failed to produce in the Hunton lime and was carried to the Simpson and Wilcox sands, finding production in both. The well made 400 barrels daily. A number of tests in the vicinity are being carried to the Wilcox sand.

First attention to the western proportion of the Link district was attracted by the Magnolia Petroleum Company's Latimer 1, SE SE NW Section 17-7-4, which did 2000 barrels from the Simpson sand late in April. It has since declined in production as a number of offsets have been completed. This test resulted in considerable drilling.

Important Completion

Just recently came a very important completion. It was the Independent Oil & Gas Company and Westland Oil Company's Rhodd 1, NWc Section 16-7-4. It is doing 3750 barrels daily from the Simpson sand and is the largest producer in the township.

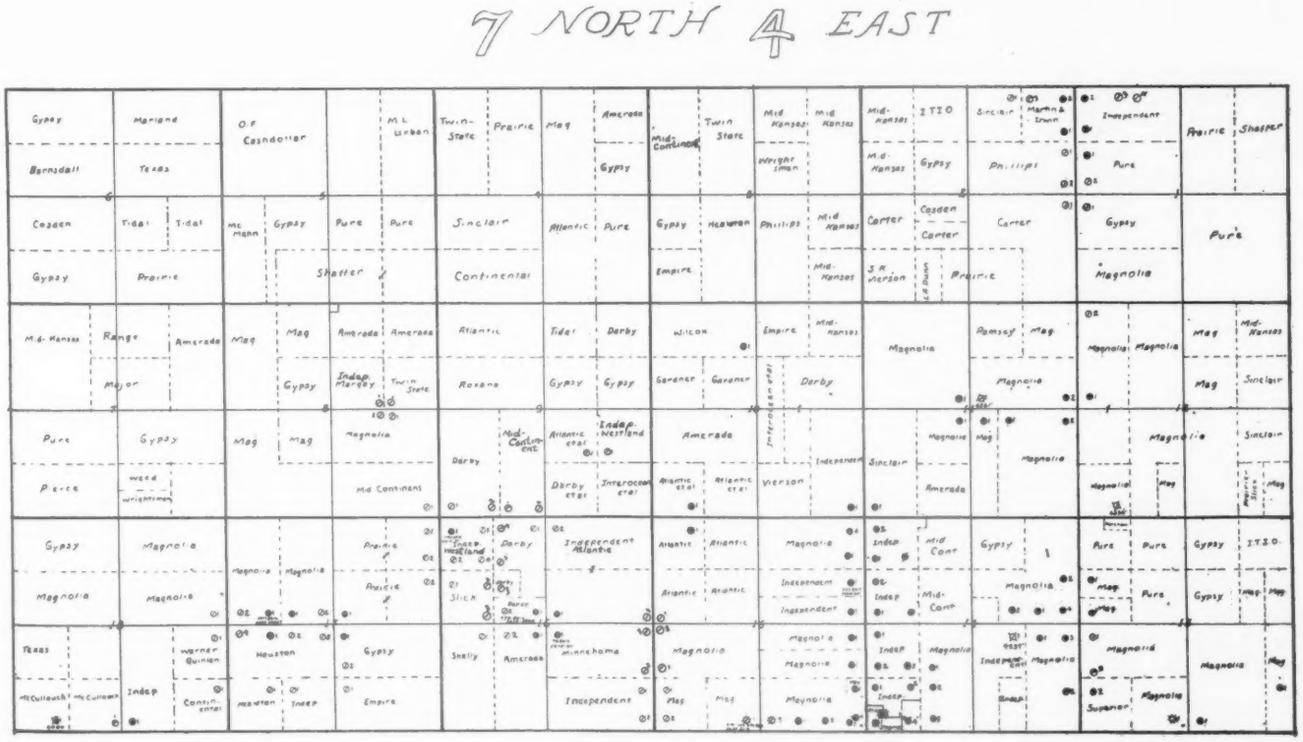
Although first production in the township was found several years ago, it is now receiving its greatest wildcat development, as a result of the recent completions. At present there are 60 drilling wells in the district, shown on the map, and additional locations are being made. A number of drilling wells are due for immediate completion, and a greatly enlarged play is anticipated. An important fact that should be noted on the map is the lack of dry holes, and the closeness of the various new producing spots. The territory has more or less been rather erratic but the possibility of finding production in various horizons has more than made up for this faulty condition.

With the completion of the present drilling wells the region may boost its production approximately 50,000 barrels daily, which would again send St. Louis production to more than 125,000 barrels daily. This will be in about 60 days. If another Wilcox sand producing structure, such as found in the west part of township 7-5e, adjoining the map on the east, is found, St. Louis may reach a new all-time peak output.

Acreage ownership is ideally divided for a competitive drilling campaign of large proportions, should future developments pan out as expected. For the most part, tracts are quite small in area and well divided among the various companies.

Other Possibilities

The region offers possibilities for production in the Hunton lime, Viola lime, Simpson sand and Wilcox sand. Most of the area producing is from the Hunton lime. But more recently the Simpson sand has taken the leading role, due to a



higher rate of recovery. The Viola lime formation has played practically no part in the area shown on the accompanying map, but production in this formation has been found immediately to the southwest, southeast and due south from the western part, and might be found in the Link area.

There is only one well on the map that is producing from the Wilcox sand and it is a small one of about 400 barrels. It is the Independent Oil & Gas Company's Barrows 1, referred to previously. The region has not been prospected closely for Wilcox sand production, and the belief exists that a Wilcox producing pool is likely to be found. The idea is strengthened by the existing Wilcox pools in the neighborhood.

Adjoining the area shown on the southwest edge is the Pearson district, the first producing spot in the immediate vicinity. While to the southeast is St. Louis pool. The present drilling campaign promises that these two producing sectors may be connected.

Another important and promising area not shown on the map is that just south, lying directly between the two above mentioned pools. It is understood that a number of geologists favor this district. Some drilling is now being done there.

American Executives Leave for Europe for World Conference

NEW YORK.—An oil conference of world-wide proportion in which curtailment of production is destined to have a leading place, is expected to be held in Europe shortly, the New York Times of July 6 announced in giving the purpose of a visit abroad by a number of American oil executives to meet representatives of European petroleum interests. Revision of export prices and the elimination of friction between American and foreign oil interests are also held up by the Times as important subjects to be brought up for discussion.

R. C. Holmes, a member of the committee on world-wide proration, is already en route to Europe, James Moffett, vice president of the Standard Oil Company of New Jersey, and George P. Whaley, president of Vacuum Oil Company, were preparing, according to the report, to sail from New York the second week in July.

Conferences scheduled to be held abroad are with Sir Henri Deterding, managing director of the Royal Dutch Shell group; Sir John Cadman, head of the British Controlled Anglo-Persian Oil Company and officials of Anglo-American Oil Company and with other leaders of the industry in England, France and Germany, says the report.

The report comments on the failure of the agreement brought about by the American Petroleum Institute to curtail 1929 production because of the refusal of the federal oil conservation board to approve the institute's program of proration and also comments on the lack of definite action taken at the recent Colorado Springs conference of governors of oil producing states and leaders of the industry.

Cooperation and Use of Core Drill Make Kansas Test Unique

By CAMPBELL OSBORN
Consulting Engineer

PROBABLY one of the most unique wells being drilled for oil in the Mid-continent is Skelly Oil Company's Birkett No. 1 located in the Northeast corner of SW Section 30, Township 24 S, Range 7 W, Reno County, Kansas. The present depth of this well, which was located just a few weeks ago, is about 800 feet. The well is a cooperative undertaking between Skelly Oil Company, Gypsy Oil Company, Prairie Oil & Gas Company, and Amerada Petroleum Corporation, who jointly own a large block of leases in the immediate vicinity. Both acreage and drilling costs have been pooled, with Skelly Oil Company having a five-eighths interest and the Prairie Oil & Gas Company, Amerada Petroleum Corporation and Gypsy Oil Company each one-eighth. The acreage is known as the Smith block, purchased some years ago from Hartman and Skaer of Wichita before the Laura A. Smith 1, located in the center of the SW of Section 24 was completed as a 600-barrel producer on New Year's Day, 1927.

In addition to the pooling feature of this well it possesses another unique characteristic heretofore unknown in Mid-Continent oil development, namely, that of core-drilling to determine the course of development rather than discovery.

Determine "High"

The discovery well was located and drilled on the basis of surface geology, but before any other tests were drilled, Skelly Oil Company, principal owner of the leases, determined to core-drill the area in an effort to locate subsequent wells on the best part of the structure. Approximately 34 core-drill holes were put down to average depths of between 400 and 500 feet during 1928 in order to define the structure. It was one of the most systematic and complete core-drill studies ever made in Kansas.

As a result of this work it was determined that the high consisted of Section 30 and the west half of Section 29, Township 24 S., Range 7 W., and consequently the second well, Birkett 1, was located slightly to the left on the flank of the high.

It seems, therefore, that this unique test, involving both cooperative feature and the use of core-drills to determine the course of development after discovery, is as intelligent an effort to drill for oil on the best part of the structure in a proved pool as can be realized in the producing branch of the oil business.

The Smith well is producing from the Kansas City lime between 3545 and 3549 feet and the gravity of the oil is 37.9 degrees A. P. I. The chat and Wilcox have not been tested in the area but, of course, offer good possibilities for production.

The Laura Smith well put Reno County on the oil map in a small way, but if core-drill studies mean anything in geology, it seems that the outcome of the Birkett well may put Reno County on the oil map in a substantial way and will also illustrate the economic feasibility of the core drill to determine the course of development after discovery.

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BRECKENRIDGE, TEXAS

LULING, TEXAS
BIG SPRING, TEXAS
WINK, TEXAS

PAMPA, TEXAS
BENAVIDES, TEXAS

EL DORADO, ARKANSAS
SEAL BEACH, CALIFORNIA

Markets--Production--Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

Mid-Continent Situation Not So Bad; California Chief Overproducer

ONE interesting side-light on the crude situation in the Mid-Continent area is the fact that for the first five months of 1929, deliveries have been at the rate of 200,000 barrels greater than in the same period of last year, while production has only increased, on an average, of 106,000 barrels a day over the same period. This indicates that the increase in demand is exceeding supply at the rate of 94,000 barrels daily. On the other hand, actual daily average production in the Mid-Continent area during the first five months of this year has exceeded deliveries by approximately 16,000 barrels a day. Since these figures include Oklahoma, Kansas, Texas, outside of Gulf Coast, North Louisiana, and Arkansas, it is readily seen that the situation in this vast area is not as bad as figures on the surface would indicate. Thus, while the excess production over last year's daily average for this entire area is stated to be 152,060 barrels, the actual difference between supply and demand is only about 16,000 barrels, while the difference in the rate of increase over last year indicates a deficit in current supply.

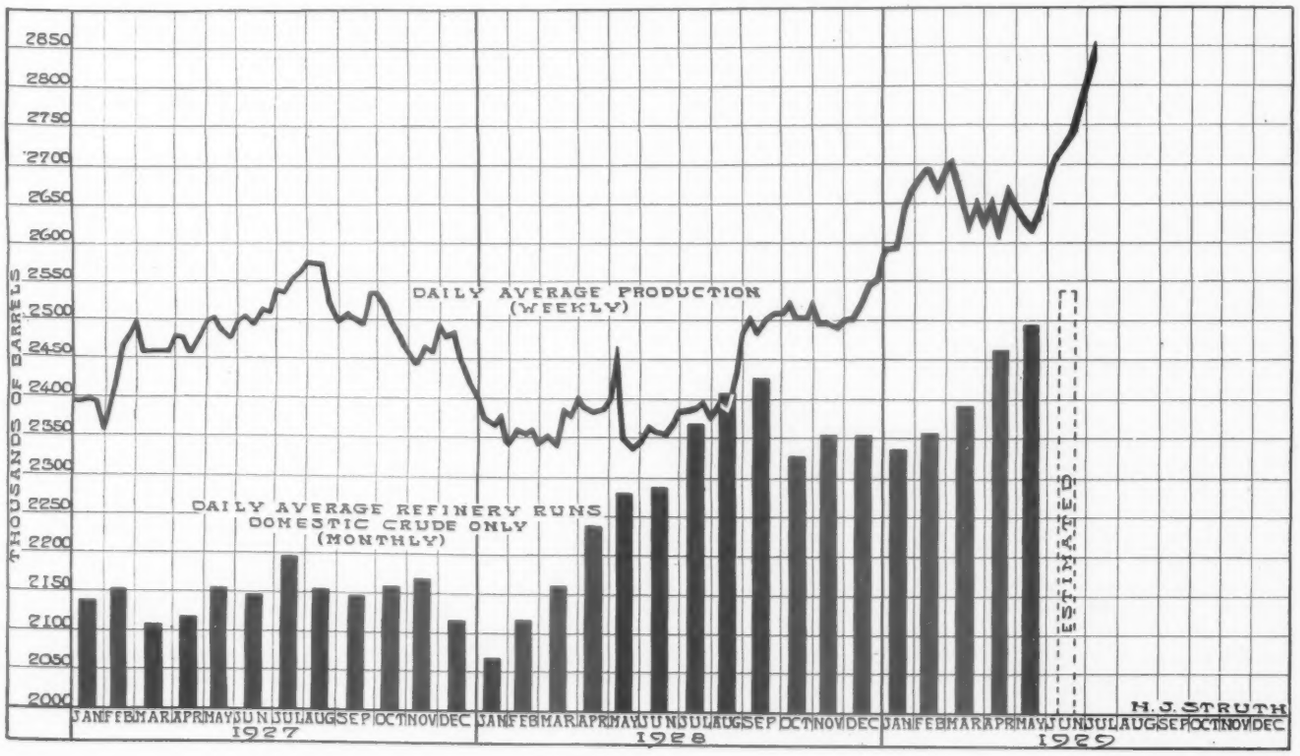
HOW LAST WEEK'S DAIY AVERAGE PRODUCTION COMPARES WITH AVERAGE OF 1928

	Daily Av'ge Year 1928 (Bureau of Mines Data)	Daily Av'ge July 6, 1929 (A. P. I. Wkly Prod. Rept.)	Excess
Oklahoma-Kansas	786,585	840,200	53,615
Texas-Louisiana-Arkansas	849,305	947,650	98,445
California	633,831	878,600	244,769
Balance of United States	190,391	190,950	559
Total United States	2,460,012	2,857,400	397,388
Mexico-Central and South America	561,339	609,249[2]	47,910
Grand total	3,021,351	3,466,649	445,298

[2]As of March 30, 1929—latest date available.

Another gain last week of 42,000 barrels caused production to reach a new high record of 2,857,400 barrels. Gains reported were as follows: Oklahoma, 19,400 barrels; California, 18,100 barrels; Texas, 6600 barrels; Eastern States, 1750 barrels; Kansas, 500 barrels. These gains were offset to some extent by the following declines: Gulf Coast, 2000 barrels; Rocky Mountain States, 1700 barrels; North Louisi-

DOMESTIC PRODUCTION AND REFINERY RUNS



XUM

Details on Critical Fields

Pool—	Oil Wells Completed	Total Initial Production	Initial Per Well	Number Producing Wells	Daily Production Barrels	Daily Prod. Per Well	Rigs Up	Wells Drilling
WEST TEXAS—								
Hendrick	592	3,068,035	5,198	604	142,225	235[1]	4	20
Church and Fields	189	203,465	1,077	186	24,825	133	1	7
Gulf-McElroy	75	57,530	767	74	12,750	172	.	3
Yates	320	2,104,810	6,578	314	121,600	387[1]	5	12
Totals	1,176	5,433,840	4,628	1,178	301,400	256	10	42
TEXAS PANHANDLE:								
Gray County	392	219,250	559	377	46,880	124	25	93
OKLAHOMA—								
Seminole	2,058	2,384,457	1,158	1,980	314,572	158	21	136
St. Louis	454	425,888	938	372	78,777	211	21	80
CALIFORNIA—								
Santa Fe Springs[2]	244	899,710	3,608	140	287,107	2,050	30	215

[1]Production partially pinched.
[2]Includes deep zone production only. For field total add 210 wells and 22,500 barrels.

ana, 350 barrels; Arkansas, 300 barrels.

Oklahoma Gains

Oklahoma registered a number of sharp gains, particularly in the newer areas, such as Carr City, East Seminole and Oklahoma City, while gains were also recorded for Earlsboro and Little River. Oklahoma's total daily average production is now 717,800 barrels, which recalls the fact that the former allowance agreed upon for the state, following the lifting of proration, was 725,000 barrels a day. The fact that the recent gains recorded have still failed to bring the state's total output to the former limits prescribed, indicates the extent to which stocks are being drawn upon in that state.

While actual figures are not available for Oklahoma, individually, it is believed that reports concerning drafts being made upon stored supplies of crude there are not at all exaggerated. However, there are now a number of signs on the horizon which point to continued increases in Oklahoma's production, indicating that conditions may be reversed before very long.

The rapid increasing number of promising new prolific oil pools in Oklahoma is the most interesting feature of development. While some of the fields appear to be small in area, considerable production is anticipated, and others are showing signs of development of considerable producing area.

The Oklahoma City field continues to look very promising with no disappointing completions as yet. No doubt it could build up a production of more than 50,000 barrels daily had not drilling operations been scheduled as to have them completed in groups rather than all at once. The peak recovery of the present tests near the sand will probably be close to 50,000 barrels. The ultimate peak recovery will depend upon the stability of production of the wells now being completed and the size of the producing area.

Outside of Oklahoma City the hottest spot is in the vicinity of the 7-6-8 pool, which has been extended a mile to the southwest by a good producer. The extension indicates that the producing area may be quite large. Since the producers are in the Wilcox sand the new pool looks like a typical Seminole field.

The Earlsboro field to the southeast and northwest is very active. Particularly is the southeast extension promising where seven wells are producing 19,000 barrels daily.

In addition to these outstanding new fields, the St. Louis pool which is getting a large play toward Pearson and where some good production has been found. No doubt St. Louis production will increase during the next 60 days.

Besides the above mentioned spots there are a few others that bear watching.

The Oklahoma crude oil market situation can be summed up that everything is pointing to an increased production during the early fall and that things are far from bright at present. All talk of another crude price advance has been killed by recent developments and the majority of operators are expecting a reduction in prices this fall.

West Texas

Conditions in Texas, particularly in West Texas, continue about the same. While Pecos County production is slowly increasing, in compliance with demand, production in Winkler County is receding somewhat, last week declining 1950 barrels, while Salt Flat recorded a decline of 2300 barrels. For Texas as a whole, including the Gulf Coast area, production only gained 4400 barrels last week, placing the total output of the state at 824,200 barrels. It is expected that the building of additional pipe line facilities will intensify competition for crude, thereby further improving the market structure.

California Still Gains

California production continues to soar to new heights, while talk is going the rounds to the effect that we will soon witness a decline at Santa Fe Springs. Last week, production at Santa Fe Springs reached a total of 268,000 barrels, an increase of 12,500 barrels over the preceding week. At the same time, Long Beach, Huntington Beach, Midway-Sunset, and other fields recorded increases which aggregated 6200 barrels, boosting the state's output to 878,600 barrels daily. California's excess daily production over last year is now 244,769 barrels, a figure that should be—but is not—causing consternation in producing and marketing circles of that state. Apparently, California operators feel that all of their excesses will be eliminated at one stroke, when Santa Fe Springs hits its peak. In the meanwhile, drilling proceeds at a feverish rate, with possibility of opening up new areas that may further complicate matters. Regardless of what the outcome of Santa Fe Springs may be, it is an act of folly to regard California's situation in any other but a serious light. Prices may hold for a while longer, through sheer control, but unless there is a definite sign of a decline soon, the economic laws will force a reduction in posted prices.

There is real expectation that the daily average production in California will pass the 900,000-barrel mark for the week ending July 13, but many believe that the following week is likely to show a decline. Santa Fe Springs holds the key to the situation and what Santa Fe Springs does in the next few weeks, is the answer as far as the state is concerned.

Some of the smaller companies, the larger ones among the independents and those with refineries and marketing facilities, are getting tight as far as storage facilities are concerned. One big company already has 1,000,000 barrels steel storage near Santa Fe Springs nearly full and another 1,000,000 barrels is now being erected on the same tank farm. Some of the other independents are doing the same thing.

Santa Fe Springs is expected to hit a peak around 300,000 barrels daily next week and very likely will either decline the following three or four weeks, or about hold its own. Most of the oil men expect a decline to hold until wells start producing from the new Lower Clarke sand, which is expected to have a big kick with plenty of oil, but due to its depth, completions will be slower.

The crude market in California is hold-

ing up considering the big production, but is showing a slight weakness at Santa Fe Springs. So far, no pipe line company has shown any real disposition to refuse to make pipe line connections at pipe line prices. There are no rumors of a cut in the price of crude. Many believing that the situation will soon clarify itself.

The gasoline market is in a peculiar situation, and may turn for the worse most any time. Buyers are staying out of the market as much as possible and many of them expect a cut in price. The refiners are presenting a stiff front and holding the quotations around previous figures. Gasoline is being offered in tank cars in the spot trade at 13 to 13½ cents, tax paid, while some refiners are asking 15½ cents, tax paid. But gasoline can be bought at 7½ to 8 cents for out of state shipment, without tax. The biggest trouble with the gasoline market is that refiners have plenty of it on hand and would like to move the product.

The export market on the West Coast is marking time. Quotations are being made on U. S. motor at one cent under the Gulf market. The movement of gasoline in the export grade is above the average, but practically all of this movement is on contract. Tanker rate for clean bottoms continues around 2½ cents for East Coast movement.

Independent refining units in the North and West Texas districts are not faring well under existing marketing conditions, as their average price for gasoline sold in tank car lots has sagged to the level existing about the time general crude price increases were posted last May.

Along with the adverse gasoline price trend, the plant owners are not enjoying their normal mid-summer demand from domestic jobbers, major companies and exporter buyers. The shading of prices on gasoline by the smaller refining units has not stimulated sales any appreciable extent, while the absence of big quantity buying of U. S. motor gasoline by Gulf Refining Company, Standard Oil Company of Indiana, Humble Oil & Refining Company and The Texas Company this spring and summer has been particularly felt. This latter group of companies has from time to time invaded the North Texas market to meet peak gasoline demand for the summer, but expansion of its plant operations within the past year has served to eliminate such.

U. S. Motor gasoline is being offered freely at eight cents per gallon in North Texas and at a fraction less in the West Texas refining centers, while late in May a general price of nine cents per gallon on this commodity prevailed.

Crude runs to stills have been cut somewhat by the above plants, and a further voluntary reduction in runs is scheduled for the last half of July, to try to let the demand from domestic jobbers balance up with production.

CRUDE RUNS TO STILL, GASOLINE, AND GAS AND FUEL OIL STOCKS, WEEK ENDING JUNE 29, 1929

(Barrels of 42 gallons)

Following are American Petroleum Institute figures showing refinery crude runs, gasoline stocks, and gas and fuel oil stocks, for the week ended June 29:

District—	Percent Potential Capacity Reporting	Crude Runs To Stills	Percent Operated of Total Capacity Reporting	Gasoline Stocks	Gas and Fuel Oil Stocks
East Coast	100.0	3,517,700	88.9	6,731,000	10,298,000
Appalachian	85.2	669,600	96.3	1,198,000	1,074,000
Ind., Ill., Ky.	98.4	2,257,500	99.6	6,794,000	3,205,000
Okla., Kans., Mo.	68.2	1,731,100	85.5	3,943,000	4,036,000
Texas	86.1	3,691,100	90.3	5,617,000	12,062,000
Louisiana-Arkansas	86.7	1,266,800	82.3	2,168,000	5,488,000
Rocky Mountain	90.6	512,700	61.5	1,876,000	564,000
California	95.5	4,816,500	85.7	11,720,000	102,744,000
Total Week June 29	90.0	18,463,000	87.8	40,047,000	139,471,000
Daily average		2,637,600			
Total Week June 22	84.6	16,907,400	85.6	38,324,000	134,615,000
Daily Average		2,415,300			
Texas (Gulf Coast)	95.0	2,845,800	94.3	4,770,000	8,118,000
Louisiana (Gulf Coast)	97.5	938,300	86.5	1,992,000	4,553,000

NOTE: Gasoline and Gas and Fuel Oil Stocks in California slightly revised for week of June 22.

Yates Field Producers Have Plenty Line Outlets for Production

SAN ANGELO, Texas.—Having entered its second week with a production quota of 130,000 barrels daily, the Yates shallow field in West Texas affords the most attractive pipe line proposition of any major field in the country through having the greatest known potential output, with only four major pipe line companies participating, and a fifth one ready to serve when connections are available. Major companies are handling and marketing every barrel of oil produced in this prolific field, and the pioneer carriers are so well entrenched that there is little chance for a sufficient volume of oil to be obtained by new entrants. Estimated potential daily production of the Yates field, based on one hour open flow gauges taken late in June, rates it at 4,590,686 barrels from 314 wells, while the 130,000 barrel daily allowance fixed by the Texas Railroad Commission is about 2.8 per cent. of the above estimated open flow gauge.

Yates field ranks fourth among the leading fields of the country on actual daily production, being exceeded by the following in the order named: Santa Fe Springs, Long Beach and Winkler County, Texas. None of the various units comprising the Seminole district are above the 100,000 barrel mark. The proven oil producing area in Yates field is in excess of 15,000 acres, and several hundred attractive locations remain to be drilled, as the field averages only about 50 acres per well, although many 100-acre units have only a few completed wells on same.

Integrated Operations

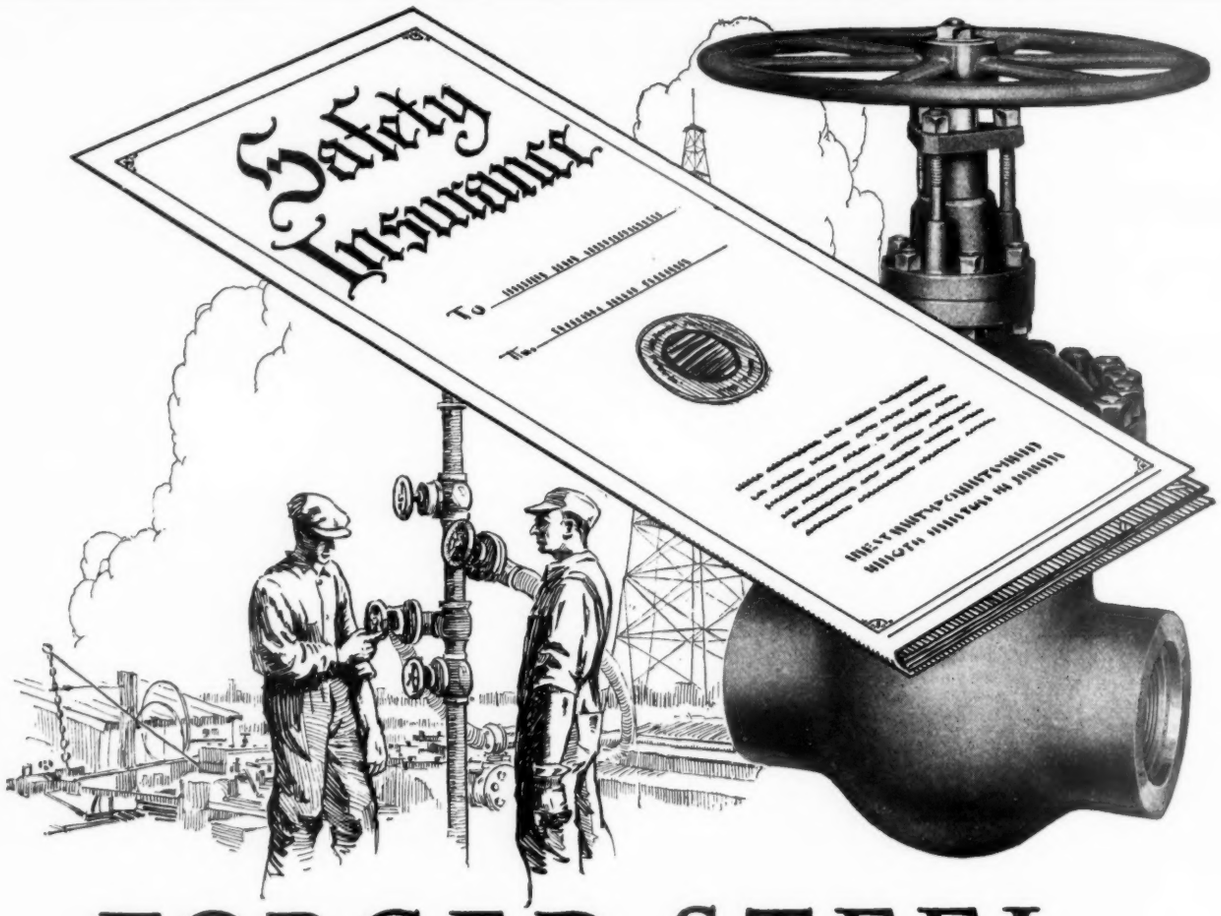
The bulk of the allowable production in the Yates field is held by producing units affiliated with the group of pipe line companies now serving the field, and only two of the latter—Humble Pipe Line Company and Shell Pipe Line Company—are running outside oil for purchase. Gulf Pipe Line Company and the Illinois Pipe Line Company are restricting their current runs to that of their affiliated producing units, except that the latter is handling a small volume of crude daily on a common carrier basis from the field for a refinery at San Antonio. The Texas Pipe Line Company, which has a 12-inch trunk line cutting through the field that began operating July 1, had not made connections in the Yates field late last week and is dependent upon purchased oil, since The Texas Company is not a producer in this particular section of West Texas.

The distribution of the 130,000 barrels daily production in Yates field is itemized below by companies:

Carrier—	Daily Barrels
Illinois Pipe Line Company	46,651*
Humble Pipe Line Company	35,551
Shell Pipe Line Company	29,910
Gulf Pipe Line Company	17,888
The Texas Pipe Line Company	.....
Total	130,000

(Continued on page 54)

(*) Delivered to Humble Pipe Line Company on contract at Lytle station, near San Antonio, except for about 2000 barrels daily to refinery at Del Rio and common carrier hauls for Grayburg Oil Company, San Antonio.



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United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1928	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
January	675,450	108,300	523,330	125,450	45,250	90,050	109,600	77,000	617,100	2,371,500	73,516,500
February	664,450	110,550	538,750	115,800	45,300	88,250	104,850	75,550	614,750	2,358,250	68,388,850
March	646,850	112,250	575,850	119,900	44,400	85,600	102,150	78,700	617,450	2,383,150	73,877,650
April	620,450	112,150	617,850	118,850	46,900	83,450	107,000	78,500	613,550	2,398,700	71,961,100
May	610,100	108,750	561,450	129,850	43,600	91,250	112,100	82,200	630,900	2,370,200	73,476,300
June	594,850	105,200	554,400	135,400	42,350	102,850	109,300	82,400	643,400	2,370,150	71,104,500
July	587,150	102,750	597,250	133,650	42,150	90,700	113,400	80,400	644,700	2,392,150	74,156,600
August	656,350	102,200	604,000	130,200	40,200	87,500	113,300	77,700	634,150	2,445,600	75,534,600
September	724,850	99,750	604,150	129,500	39,050	84,700	112,550	78,850	631,650	2,505,050	75,151,500
October	741,350	97,900	598,550	129,950	38,800	83,550	114,000	83,300	624,450	2,511,850	77,867,600
November	715,750	96,600	586,350	135,100	38,600	83,000	109,700	81,150	653,050	2,499,300	74,978,300
December	710,600	97,200	603,700	135,050	37,300	81,350	113,450	74,600	697,850	2,551,100	79,084,400
1929											
January	722,550	97,150	632,500	136,750	36,650	78,600	111,950	73,200	747,250	2,635,600	81,703,600
February	714,800	95,950	643,350	142,300	35,700	74,600	108,550	71,750	797,800	2,684,800	75,204,400
March	666,500	95,500	662,500	147,750	35,800	74,250	108,850	70,400	786,000	2,647,400	82,068,350
April	665,600	106,400	650,100	154,550	35,550	72,900	110,850	69,400	781,350	2,646,700	79,402,100
May	679,650	115,400	651,100	150,350	35,350	71,500	114,150	72,850	749,250	2,639,600	81,827,600
June 1	686,850	118,150	676,200	143,600	35,150	71,450	115,750	74,300	790,200	2,711,650	18,981,550
June 8	683,050	119,100	688,700	146,700	34,900	70,900	116,150	69,450	795,500	2,724,450	19,069,050
June 15	674,700	120,800	688,050	147,300	36,750	69,950	116,500	73,900	815,300	2,743,250	19,202,750
June 22	679,650	121,400	687,150	147,250	36,000	69,800	116,900	70,850	835,500	2,764,500	19,351,500
June 29	698,400	121,900	689,500	149,250	35,400	69,550	117,350	73,550	860,500	2,815,400	19,707,800
July 6	717,800	122,400	696,100	147,250	35,050	69,250	119,100	71,850	878,600	2,857,400	20,001,800
Increase	19,400	500	6,600	.....	.....	.....	1,750	.....	18,100	42,000	294,000
Decrease	.....	.....	.....	2,000	350	300	.....	1,700	.....	.....	.....

TEXAS

(Outside Gulf Coast)

PANHANDLE DISTRICT

	July 6	June 29
Carson County	7,550	7,650
Gray County	52,950	51,300
Hutchinson County	25,750	25,550
Wheeler County	950	800
Others	1,200	1,250
Total	88,400	86,550

NORTH TEXAS

Archer County	18,150	17,850
Burkburnett	8,950	8,800
Electra	12,200	12,350
Iowa Park-KMA	4,900	4,950
Montague and Cooke Cos.	12,750	12,900
Wilbarger	26,200	26,300
Others	700	700
Total	83,850	83,850

WEST CENTRAL TEXAS

Brown County	7,700	7,750
Callahan County	4,450	4,300
Coleman County	4,200	3,850
Eastland-Desdemona	6,700	6,550
Jack County	2,950	2,800
Palo Pinto County	350	350
Shackelford County	11,700	11,800
Stephens County	6,200	6,250
Throckmorton County	700	700
Young County	6,900	6,950
Others	600	600
Total	52,450	51,900

WEST TEXAS

Crane-Upton Counties	46,700	46,450
Crockett County	1,950	2,000
Howard County	43,350	42,500
Jones County	3,200	3,300
Mitchell-Scurry Cos.	2,800	2,700
Pecos County	117,500	110,100
Reagan County	18,100	18,200
Winkler County	140,300	142,250
Others	1,550	1,000
Total	375,450	369,100

EAST CENTRAL TEXAS

Boggy Creek	2,950	2,850
Corsicana-Powell	7,600	7,700
Currie	350	350
Mexia	5,500	5,600
Nigger Creek	400	400
Richland	400	400
Wortham	1,000	1,000
Total	18,200	18,300

SOUTHWEST TEXAS

Dale	400	400
Laredo District	10,800	10,950
Luling	12,150	11,950
Lytton Springs	900	900
Somerset	1,750	1,700
Salt Flat	47,900	50,200
Others	3,850	3,700
Total	77,750	79,800
T'tl Tex. (Outside Gulf Coast)	696,100	689,500

TEXAS GULF COAST

Barbers Hill	8,700	10,200
Batson	1,350	1,450
Big Creek	4,250	4,000
Blue Ridge	3,700	4,250
Boling	1,500	1,550
Damon Mound	600	650
Goose Creek	5,600	5,700
Hull	8,150	8,400
Humble	5,600	5,500
Orange County	2,900	3,000
Pierce Junction	18,000	17,600
Raccoon Bend	6,500	6,600
Saratoga	850	850
Sour Lake	2,700	2,750
South Liberty	5,350	5,300
Spindle Top	27,050	26,800
Sugar Land	13,100	12,600
West Columbia	6,250	6,450
Washington County	2,550	2,650
Others	3,400	4,000
Total	128,100	130,300
Texas Total	824,200	819,800

OKLAHOMA

Carr City	14,100	13,650
Braman	3,800	3,750
Logan County	19,500	19,200
Blackwell	3,850	3,850
Hubbard	1,850	1,850
Thomas	900	950
Tonkawa	9,950	10,000
Garber	5,800	5,850
Burbank	19,700	19,750
Osage (outside Burbank)	26,550	26,500
Cushing	18,550	18,550
Yale Jennings	6,950	6,950
Davenport	1,450	1,450
Bristow Slick	18,750	18,750
North Okmulgee	12,800	12,800
Lyons Deaner	8,350	8,350
Cromwell	8,100	8,150
Papoose	3,300	3,300
Wewoka	4,750	4,800
Seminole	34,200	34,100
East Seminole	5,350	.....
Bowlegs	34,650	35,300
Searight	12,050	12,250
Little River	81,000	77,250
Earlsboro	80,700	74,050
Duncan District	7,250	7,250
Graham	4,250	4,250
Fox	1,400	1,400
Healdton	12,850	12,900
Hewitt	8,050	8,050
Scholem Alechem	12,750	12,800
Pearson	1,250	1,250
St. Louis	79,350	81,350
Allen	25,000	24,200
Maud	12,250	12,850
Mission	34,850	34,800
Oklahoma City	17,250	9,800
Others	64,550	66,050
Total	717,800	698,400

CALIFORNIA

Santa Fe Springs	268,000	255,500
Long Beach	178,000	176,500
Huntington Beach	45,000	43,500
Torrance	13,000	13,000
Dominguez	10,000	10,000
Rosecrans	6,300	6,300
Inglewood	23,500	23,500
Midway-Sunset	66,000	64,500
Ventura Avenue	59,000	59,000
Seal Beach	50,000	50,000
Elwood-Goleta	28,900	29,500
Kettleman Hills	3,400	3,400
Others	127,500	125,800
Total	878,600	860,500

KANSAS

Greenwood County	21,300	21,300
Florence-Covert	950	950
Peabody-Ebling	2,750	2,800
Eldorado-Towanda	12,900	12,900
Augusta-Fox Bush	3,100	3,100
Rainbow Bend	1,050	1,050
Russell	3,300	3,300
Churchill	6,100	6,400
Oxford	4,600	4,500
Sedgewick	34,350	34,600
Others	32,000	31,000
Total	122,400	121,900

NORTH LOUISIANA

	July 6	June 29
Homer	3,900	3,900
Haynesville	5,200	5,250
Caddo Light	8,350	8,400
Caddo Heavy	3,300	3,400
DeSoto-Red River	3,800	3,850
Elm Grove	600	600
Bellevue	600	600
Cotton Valley	2,600	2,750
Urania	5,950	5,900
Pleasant Hill	500	500
Others	250	250
Totals North Louisiana	35,050	35,400

LOUISIANA GULF COAST

Bayou Bouillion	200	200
East Hackberry	2,950	2,000
Hackberry	2,100	2,300
Edgerly	700	700
Evangeline	2,900	2,800
Lockport	3,500	3,700
Sorrento	200	200
Sulphur Dome	1,700	2,000
Sweet Lake	200	300
Vinton	4,200	4,250
Others	500	500
Total Louisiana Gulf Coast	19,150	18,950
Louisiana Total	54,200	54,350

ARKANSAS

El Dorado	4,600	4,550
Champagnolle	7,700	7,200
Smackover Light	6,050	6,100
Smackover Heavy	47,600	48,400
Stephens	1,000	1,000
Nevada	950	950
Lisbon	1,250	1,250
Others	100	100
Total	69,250	69,550

MOUNTAIN STATES

WYOMING

Salt Creek	29,000	30,850
Grass Creek	2,250	2,300
Elk Basin	750	750
Big Muddy	2,250	2,250
Lost Soldier	4,150	3,900
Rock River	2,400	2,300
Lance Creek	200	250
Oregon Basin	4,300	4,300
La Barge	2,100	2,100
Others	3,650	3,900
Total	51,050	52,900

MONTANA

Cat Creek	1,450	1,450
Sunburst	6,850	6,850
Pondera	3,200	3,150
Others	100	100
Total	11,600	11,550

COLORADO

Moffats (Craig)	1,550	1,600
Fort Collins	2,200	2,500
Florence	1,050	1,000
Others	2,500	2,450
Total	7,300	7,550

NEW MEXICO

Table Mesa	...	...
Artesia	800	850
Hogback	150	150
Rattlesnake	500	100
Others	450	450
Totals	1,900	1,550
Total Mountain States	71,850	73,550

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.)	119,100	117,350

PRODUCTION SUMMARY

East of Rockies	1,906,950	1,881,350
Total U. S.	2,857,400	2,815,400

CRUDE OIL PRICE QUOTATIONS

Revised July 9, 1929

EASTERN STATES
(Effective March 12, 1929)

Penna Grade Oil in New York Transit Lines (New York)	$4.10
Brandford District Oil in National Transit Lines (Pennsylvania)	4.10
Penna Grade Oil in National Transit Lines (Pennsylvania)	4.00
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	4.00
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	3.90
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	3.85
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia)	1.35
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.80
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.75
Somerset Oil in Cumberland Pipe Line lines (Kentucky)	1.80
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (Effective Jan. 29, 1929)	.60
Keister (Pennsylvania)	1.20

CENTRAL STATES
(Effective May 21, 1929)
Posted by Ohio Oil Co.

Illinois	1.75
Indiana	1.57
Lima	1.80
Plymouth	1.28
Princeton	1.75
Waterloo	1.25
Wooster	1.90

MID-CONTINENT
(Effective May 21, 1929)
Magnolia Petroleum Company

Under 26	.70
26 to 26.9 gravity	.75
27 to 27.9 gravity	.85
28 to 28.9 gravity	.90
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.05
31 to 31.9 gravity	1.15
32 to 32.9 gravity	1.25

From 33 to 44 gravity and above, Magnolia Petroleum Company prices are the same as those of Carter Oil Company.

MID-CONTINENT
(Effective May 20, 1929)
Carter Oil Company, Gulf Pipe Line Company, Sinclair Pipe Line Company, Prairie Oil and Gas Company and The Texas Company.

25 to 25.9 gravity	.90
26 to 26.9 gravity	.95
27 to 27.9 gravity	1.00
28 to 28.9 gravity	1.05
29 to 29.9 gravity	1.10
30 to 30.9 gravity	1.15
31 to 31.9 gravity	1.20
32 to 32.9 gravity	1.25
33 to 33.9 gravity	1.30
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.40
36 to 36.9 gravity	1.45
37 to 37.9 gravity	1.50
38 to 38.9 gravity	1.55
39 to 39.9 gravity	1.60
40 to 40.9 gravity	1.65
41 to 41.9 gravity	1.70
42 to 42.9 gravity	1.75
43 to 43.9 gravity	1.80
44 and above	1.85

WESTERN KENTUCKY

All grades	1.83

PANHANDLE
(Effecive May 20, 1929)
GRAY COUNTY
(Humble Oil & Refining Company, Magnolia Petroleum Company, Gulf Pipe Line Company.

Below 29 gravity	.90
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.00
31 to 31.9 gravity	1.05
32 to 32.9 gravity	1.10
33 to 33.9 gravity	1.15
34 to 34.9 gravity	1.20
35 to 35.9 gravity	1.25
36 to 36.9 gravity	1.30
37 to 37.9 gravity	1.35
38 to 38.9 gravity	1.40
39 to 39.9 gravity	1.45
40 to 40.9 gravity	1.50
41 to 41.9 gravity	1.55
42 to 42.9 gravity	1.60
43 to 43.9 gravity	1.65
44 and above	1.70

WHEELER COUNTY
(Humble Oil and Refining Company and Magnolia Petroleum Company)

Below 30 gravity	.90
30 to 30.9 gravity	.95
31 to 31.9 gravity	1.00
32 to 32.9 gravity	1.05
33 to 33.9 gravity	1.10
34 to 34.9 gravity	1.15
35 to 35.9 gravity	1.20
36 to 36.9 gravity	1.25
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.35
39 to 39.9 gravity	1.40
40 to 40.9 gravity	1.45
41 to 41.9 gravity	1.50
42 to 42.9 gravity	1.55
43 to 43.9 gravity	1.60
44 and above	1.65

CARSON-HUTCHINSON COUNTIES
(Humble Oil and Refining Company, Magnolia Petroleum Company and Gulf Pipe Line Company)

Below 32 gravity	.90
32 to 32.9 gravity	.95
33 to 33.9 gravity	1.00
34 to 34.9 gravity	1.05
35 to 35.9 gravity	1.10
36 to 36.9 gravity	1.15
37 to 37.9 gravity	1.20
38 to 38.9 gravity	1.25
39 to 39.9 gravity	1.30
40 to 40.9 gravity	1.35
41 to 41.9 gravity	1.40
42 to 42.9 gravity	1.45
43 to 43.9 gravity	1.50
44 and above	1.55

SOMERSET
Grayburg

Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17

CALIFORNIA CRUDE OIL PRICES AT THE WELL
(EFFECTIVE JANUARY 18, 1929)

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons infields indicated)

Gravity	Ventura *	Signal Hill	Alamitos Heights-Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Elwood † Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elks Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$ .85	$ .70	$ .70	$ .70	$ .70	$ .70	$ ..	$ ..	$ .70	$ .70	$ .70	$ .70	$ .70	$ ..	$ .50	$ .50	$ .50	$ .50	$ .50	$ .50
15-15.9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
16-16.9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
17-17.9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
18-18.9	.85	.75	.75	.75	.75	.75	..	..	.75	.75	.75	.70	.75	..	.50	.56	.56	.56	.56	.56
19-19.9	.85	.80	.80	.80	.80	.80	..	..	.80	.80	.80	.75	.80	..	.50	.62	.62	.62	.62	.62
20-20.9	.85	.85	.85	.85	.85	.85	..	..	.85	.85	.84	.80	.84	..	..	.68	.68	.68	.68	.68
21-21.9	.86	.89	.89	.89	.89	.89	..	..	.89	.89	.88	.85	.88	.89	..	.74	.74	.74	.74	.74
22-22.9	.87	.93	.93	.93	.93	.93	..	..	.93	.93	.91	.90	.91	.92	..	.80	.80	.80	.80	.80
23-23.9	.90	.97	.97	.97	.97	.97	..	..	.97	.97	..	.95	.94	.95	..	.85	.85	.85	.85	.85
24-24.9	.94	1.01	1.01	1.01	1.01	1.01	1.01	..	1.01	1.01	..	.98	.97	.98	..	.90	.90	.90	.88	.88
25-25.9	.98	1.05	1.05	1.05	1.05	1.05	1.05	..	1.05	1.05	..	1.01	1.00	1.01	..	.95	.95	.95	.91	.91
26-26.9	1.02	1.09	1.09	1.09	1.09	1.09	1.09	..	1.09	1.09	..	1.04	1.04	1.04	..	1.00	1.00	1.00	.94	.94
27-27.9	1.06	1.13	1.13	1.13	1.13	1.13	1.13	..	1.13	1.13	..	1.07	1.08	1.07	..	1.05	1.05	1.05	.98	.97
28-28.9	1.10	1.17	1.17	1.17	1.17	1.17	1.17	..	1.17	1.17	..	1.10	1.12	1.10	..	1.10	1.10	1.10	1.02	..
29-29.9	1.14	1.21	1.21	1.21	..	1.21	1.21	..	..	1.21	..	1.13	1.16	1.15	..	1.16	1.16	1.16	1.06	..
30-30.9	1.18	1.25	1.25	1.25	..	1.25	1.25	..	..	1.25	..	1.16	1.20	1.20	..	1.22	1.22	1.22	1.10	..
31-31.9	1.23	1.30	1.30	1.30	..	..	1.30	..	..	..	..	..	..	1.25	..	1.28	1.28	1.28	1.14	..
32-32.0	1.28	1.35	1.35	1.35	..	..	1.35	..	..	..	..	..	..	1.30	..	1.34	1.34	1.34	1.18	..
32-32.9	..	..	..	..	..	..	1.41	..	..	..	..	..	..	1.35	..	1.40	1.40	1.40	1.22	..
34-34.9	..	..	..	..	..	..	1.47	1.16	..	..	..	..	..	1.40	..	..	..	1.46	1.26	..
35-35.9	..	..	..	..	..	..	1.53	1.22	..	..	..	..	..	1.45	..	..	..	..	1.30	..
36-36.9	..	..	..	..	..	..	1.59	1.28	..	..	..	..	..	1.50	..	..	..	..	..	..
37-37.9	..	..	..	..	..	..	1.65	1.34	..	..	..	..	..	1.55	..	..	..	..	..	..
38-38.9	..	..	..	..	..	..	1.71	1.40	..	..	..	..	..	1.60	..	..	..	..	..	..
39-39.9	..	..	..	..	..	..	1.77	1.46	..	..	..	..	..	1.65	..	..	..	..	..	..
40-40.9	..	..	..	..	..	..	1.83	1.52	..	..	..	..	..	..	..	..	..	..	..	..
41-41.9	..	..	..	..	..	..	1.89	1.58	..	..	..	..	..	..	..	..	..	..	..	..
42-42.9	..	..	..	..	..	..	1.95	1.64	..	..	..	..	..	..	..	..	..	..	..	..

KETTLEMAN HILLS—55 degree Gravity and above $1.65 per barrel. *Union Oil Company. †Changed March 18, 1929.

(See Page 46)

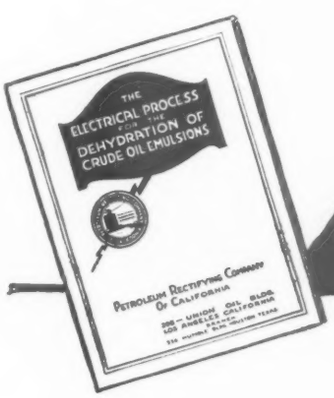
Petreco is saving this producing oil company at the rate of $51,000.00 annually!

Read what they say about "PETRECO" Electric Dehydrators:

"In August, 1928, we installed a (Petreco) dehydrating plant . . . . and since September 1, 1928, we have eliminated the water (in oil) to less than 1%, and from all data gathered to date the installation of this dehydrating plant has made savings in fuel, labor and other items of approximately $140.00 daily, which will mean a saving of approximately $51,100.00 annually that we have not had heretofore."

(Name of company on request)

Ask us for details of "Petreco" plants now in operation and our booklet—"The Electrical Process for the Dehydration of Crude Oil Emulsions."



"Petreco" savings differ in all instances — some companies are saving less, some considerably more—but the fact remains, if your production is wet, "Petreco" Electric Dehydrators can turn it into pipe-line oil at minimum expense and effect savings which will represent worthwhile profits for your company.

PETROLEUM RECTIFYING COMPANY of CALIFORNIA

Security Title Insurance Bldg. Los Angeles, Calif. — 530 West 6th Street.
Petroleum Bldg. Houston, Texas

PETRECO

CRUDE OIL PRICE QUOTATIONS (*Continued from Page 44*)

WEST TEXAS
(Humble, Gulf, Magnolia, The Marland Company and Southern Crude Oil Purchasing Company)*

Crane-Upton, Crockett, Howard, Pecos and Winkler Counties and Lea County, N. Mex.

Below 25 gravity	.70
25 to 25.9 gravity	.74
26 to 26.9 gravity	.78
27 to 27.9 gravity	.82
28 to 28.9 gravity	.86
29 to 29.9 gravity	.90
30 to 30.9 gravity	.94
31 to 31.9 gravity	.98
32 to 32.9 gravity	1.02
33 to 33.9 gravity	1.06
34 to 34.9 gravity	1.10
35 to 35.9 gravity	1.14
36 and above	1.18

***Gulf does not post in Winkler County; Magnolia posts in Crane, Upton and Winkler Counties. Southern Crude Oil Purchasing Company posts only in Crane, Upton and Winkler Counties.**

MARKHAM
The Texas Company
(Effective May 20, 1929)

All grades	$1.00

LULING

All grades	.90

NORTH AND CENTRAL TEXAS
(Effective May 21, 1929)
Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude
(Humble Oil and Refining Company)

Below 25	.85
25 to 25.9 gravity	.90
26 to 26.9 gravity	.95
27 to 27.9 gravity	1.00
28 to 28.9 gravity	1.05
29 to 29.9 gravity	1.10
30 to 30.9 gravity	1.15
31 to 31.9 gravity	1.20
32 to 32.9 gravity	1.25
33 to 33.9 gravity	1.30
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.40
36 to 36.9 gravity	1.45
37 to 37.9 gravity	1.50
38 to 38.9 gravity	1.55
39 to 39.9 gravity	1.60
40 to 40.9 gravity	1.65
41 to 41.9 gravity	1.70
42 to 42.9 gravity	1.75
43 to 43.9 gravity	1.80
44 and above	1.85

SOUTH TEXAS

Mirando	.90
Salt Flat	1.25

GULF COAST
(Effective May 21, 1929)

Grade "A" all companies	1.30
Gulf Coast Light Oil, below 25	1.15
25 to 25.9 gravity	1.18
26 to 26.9 gravity	1.21
27 to 27.9 gravity	1.24
28 to 28.9 gravity	1.27
29 to 29.9 gravity	1.30
30 to 30.9 gravity	1.33
31 to 31.9 gravity	1.36
32 to 32.9 gravity	1.39
33 to 33.9 gravity	1.42
34 to 34.9 gravity	1.45
35 to 35.9 gravity	1.48
36 to 36.9 gravity	1.51
37 to 37.9 gravity	1.54
38 to 38.9 gravity	1.57
39 to 39.9 gravity	1.60
40 and above	1.63

***Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 to $1.37 per barrel.**

Magnolia Petroleum Company's postings stop at 31 to 31.9.

WYOMING-MONTANA
(Effective May 21, 1929)
Wyoming

Byron	1.33
Ferris	1.60
Elk Basin	1.65
Grass Creek	1.65
Rock Creek	1.40
Lost Soldier	1.05
Lance Creek	1.68
Mule Creek	1.20
Notches	.65
Big Muddy	1.43
Osage	1.38
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.48
Lander	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

Salt Creek

Midwest Refining Company

29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 and above	1.23

MONTANA
(Effective May 24)

Sunburst	$1.75
Cat Creek	1.48
Lake Basin	2.20

NEW MEXICO

Artesia	1.08
Hogback	1.43

CANADA
(Effective May 21, 1929)

Oil Springs	2.27
Petrolia	2.20

LOUISIANA-ARKANSAS
(Effective May 22, 1929
Homer, Haynesville, Caddo, El Dorado, De Soto and Crichton and Cotton Valley*
(Atlantic Oil Producing Company, Standard of Louisiana, Magnolia Petroleum Company and The Texas Company.)

27 to 27.9 gravity	$1.00
28 to 28.9 gravity	1.05
29 to 29.9 gravity	1.10
30 to 30.9 gravity	1.15
31 to 31.9 gravity	1.20
32 to 32.9 gravity	1.25
33 to 33.9 gravity	1.30
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.40
36 to 36.9 gravity	1.45
37 to 37.9 gravity	1.50
38 to 38.9 gravity	1.55
39 to 39.9 gravity	1.60
40 to 40.9 gravity	1.65
41 to 41.9 gravity	1.70
42 to 42.9 gravity	1.75
43 to 43.9 gravity	1.80
44 gravity and above	1.85

***Shreveport-Eldorado's postings stop at above 40 gravity.**

The posting on Cotton Valley is same as Caddo. From 36 to 52 and above the regular gravity schedule is followed.

The Texas Company pays North Texas gravity scale in North Louisiana.

STEPHENS
(All Companies)

Below 28 gravity	.90
28 to 28.9 gravity	.94
29 to 29.9 gravity	.98
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.06
32 gravity and above	1.10

SMACKOVER
(All Companies)

Below 24 gravity	.85
24 and above	1.00
Bellevue	1.30
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	1.00
Calion	.75

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS
(Barrels of 42 gallons)

	Week Ended June 29	Week Ended June 22
AT ATLANTIC COAST PORTS—		
Baltimore	79,000	128,000
Boston	.....	193,000
New York	1,091,000	704,000
Philadelphia	269,000	50,000
Others	135,000	186,000
Total	1,574,000	1,261,000
Daily Average	224,857	180,143
AT GULF COAST PORTS—		
Galveston District	115,000	.....
New Orleans and Baton Rouge	107,000	199,000
Port Arthur and Sabine District	142,000	.....
Tampa	.....	.....
Total	364,000	199,000
Daily Average	52,000	28,428
AT ALL UNITED STATES PORTS—		
Total	1,938,000	1,460,000
Daily Average	276,857	208,571
Daily Average Four Weeks Ended	278,786	271,714

CALIFORNIA OIL RECEIPTS AT ATLANTIC AND GULF COAST PORTS
(Barrels of 42 gallons)

	Week Ended June 29	Week Ended June 22
AT ATLANTIC COAST PORTS—		
Baltimore	75,000	200,000
Boston	95,000	.....
New York	95,000	125,000
Philadelphia	116,000	193,000
Others	.....	77,000
Total	381,000	595,000
Daily Average	54,429	85,000
AT GULF COAST PORTS—		
Total	.....	.....
Daily Average	.....	.....
AT ATLANTIC AND GULF COAST PORTS—		
Total	381,000	595,000
Daily Average	54,429	85,000
Daily Average Four Weeks	60,750	59,536
Distribution of Total California Oil Receipts is as follows:		
Crude	.....	.....
Gasoline	381,000	595,000
Gas Oil	.....	.....
Total	381,000	595,000

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PERSONAL MENTION-MEN YOU KNOW

E. G. Allen, general suerintendent of production for the Shell Petroleum Corporation in the central division, with headquarters at Dallas, departed last week for a vacation in California. He was accompanied by members of his family.

E. B. Dilley, chief scout for the Atlantic Oil Producing Company in the West Texas district, with headquarters at San Angelo, visited the Dallas headquarters of the company late last week.

H. P. Forman, assistant credit manager of the Sun Company, Tulsa, has returned from Minneapolis, where he attended the National Association of Credit Men's convention.

R. A. Nelson, general superintendent of the Empire Pipe Lines Company, died June 26, at the Bell Memorial hospital, Kansas City. Nelson had been in ill health for several months. Death was due to pneumonia. Funeral services were held June 29 at Bartlesville and burial was in Caney, Kansas.

Nelson was born in Montgomery County, Illinois, April 14, 1878, but spent his boyhood in St. Louis and Moberly, Missouri. He engaged in railroad work as a telegraph operator at Ramona and Nowata upon coming to Oklahoma. Later he moved to Caney, Kansas, and was in the drug store business. After selling this business he was employed by the Prairie Pipe Line Company as a gauger. He joined the Empire organization at Okmulgee as district gauger. He was made district foreman in 1918, and in 1920 was transferred to the Tulsa office. Very shortly afterwards he was moved to Bartlesville as assistant general superintendent. Upon resignation of H. D. Hull he became general superintendent, which position he held at the time of his death.

Charles Hill Johns has resigned from the legal department of the Skelly Oil Company to engage in private practice of law in partnership with John M. Chick. Robert M. Turpin, well-known young attorney of Austin, Texas, will succeed Mr. Johns, according to W. P. Z. German, general attorney of the Skelly Oil Company.

O. O. Allen, superintendent of pipe lines in Southern California for the Standard Oil Company of California, recently returned from a two months hunting trip in Alaska, and brought home with him hides from two fine specimens of big brown bears, brought down with his own gun. One of the bear hides, laid on the ground, measured 9 feet 2 inches each way, while the other measured 10 feet 2 inches. The skins will soon grace his home.

L. B. DENNING

of Dallas, Texas, president of the Lone Star Gas Company and until recently also an active executive of gas companies in the East

Earl Oliver, Ponca City, petroleum engineer and operator, has been in Washington, where he had a conference with President Hoover and discussed the Oklahoma oil situation with him. Oliver was state chairman of the Hoover committee in the last campaign.

H. B. Gutelius, vice president and general manager, and C. J. Holloran, in charge of Kansas and Oklahoma district for the Continental Supply Company, were in Oklahoma last week making a tour of the field and visiting their local office.

Niel J. Norris, who has been serving Geo. F. Getty, Inc., for a number of years in California as general field superintendent, has resigned his position to accept similar work with MacMillan Petroleum Company. Rufus Fadler, district superintendent for Getty, also resigned to work with Norris with the MacMillan organization.

S. L. Cronin, manager of the land department of the Pure Oil Company of Ohio, was in California early in July on a vacation trip.

D. J. Moran, president of the Continental Oil Company, visited the company's Casper headquarters last week and inspected properties of the merged corporations in the Salt Creek and Big Muddy oil fields.

A. Baker, who has been at the head of the Ohio Oil Company's land department in the Rocky Mountain states for the last several years, has been elected assistant secretary of the company.

A. B. Fancher, who has been at the head of the Shell Oil Company's land department in Southern California for the past nine years, has resigned his position and probably will engage in business for himself.

Paul Grimm, for six years in charge of operations for George F. Getty, Inc., with headquarters in Los Angeles, has resigned his connections with the Getty organization and will engage in another line of the oil business. He will be succeeded by Cliff Beem, who has been connected with Standard Oil Company of California for several years.

Tulsa—W. H. Kornebay, Vinita, Oklahoma, attorney, while drilling for water on his farm four miles north of Vinita, encountered a high grade oil at 300 feet. This is thought to be the same stratum producing east of Dewey. While the flow is small, it is so shallow as to make it attractive if it continues to show. It is understood that some other tests will be made in the district to determine if the district has any possibilities for a small pool.

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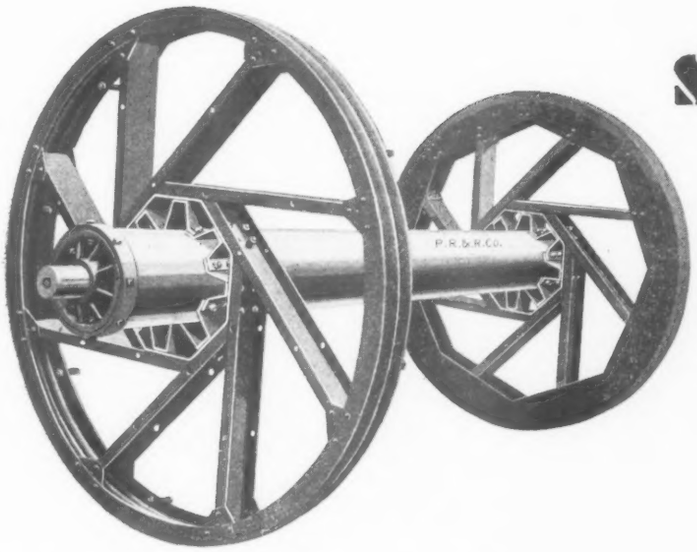

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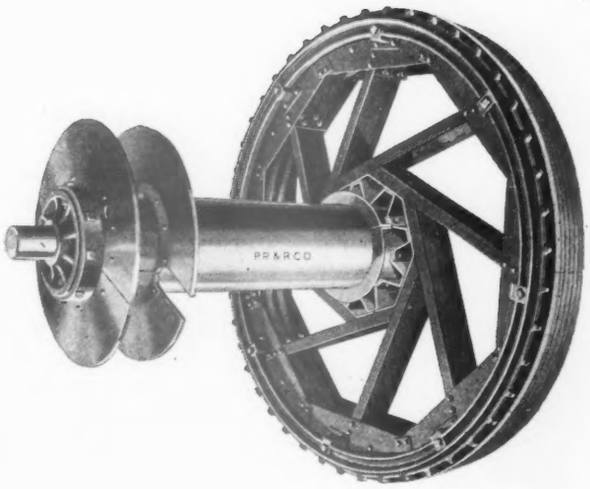

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North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

New Mexico Area Renews Promise Of Important Production

ARTESIA, New Mexico.—The Jal district in southeastern New Mexico renewed its threat of becoming a source of flush oil production late last week when the semi-wildcat test of The Texas Company et al on the Charles W. Shepherd government permit gauged 1561 barrels of 27 degree gravity oil and about 25 million cubic feet of sulphur gas during the 24 hour period ending July 8. This 3300-foot well is the largest completed in Lea County, and is being served with direct connections by The Texas Pipe Line Company. Amerada Petroleum Corporation and the Columbian Carbon Company have a one-third interest each in this producer and the 640 acres of government leases that are validated by the completion of a commercial well.

Since a recent government ruling cut down the number of acres held by the above companies in the original Shepherd permit, drainage by this producer may cause the government to auction off to the highest bidder a few nearby tracts at an early date. The Shepherd well is located in the southeast corner of the northeast quarter of Section 6-26S-37E, and about 2¾ miles southeast of the nearest production, which is held by Skelly Oil Company on the Joyner land.

Successful completion of the Shepherd well after a five months fishing job in the upper oil and gas horizon represented an excellent piece of work in overcoming a bad situation. This well was originally brought in late in January flowing 200 barrels daily at 3206-23 feet, with heavy gas flow, and, while trying to drill in, lost a string of eight-inch tools, followed by a parted joint of pipe. It averaged 150 barrels daily during the first one-half of February, and the crew set a whip stock at 2907 feet to drill by junk. Two whip stocks were lost in the hole at one time, but recovered. However, the crew won in its efforts to drill by this junk by making new hole from 2907 feet, but encountered a gas blowout at 3003 feet.

B. K. Stovall drilled the Shepherd well on contract with cable tools. Harold Pardee, assistant division manager of the Central and West Texas division for The Texas Company, supervised the work of clearing up this partially junked hole. He has since been transferred to Tulsa district offices of the company.

Four-Inch Gathering System

The Texas Pipe Line Company has replaced a two-inch line originally built from the Shepherd producer to its Jal tank farm and pump station with a four-inch gathering system and is in position to run all oil. However, the well has been ordered placed on back pressure, using a Shaffer flow bean.

The Texas Company's B. Lynch-government permit 1, Section 34-20S-34E, a rank wildcat producer, has ranked as the largest producer in Lea County, having pumped and flowed about 1100 barrels of 31.6 gravity oil daily at 3722-31 feet since June. This well is to be pumped only 12 hours daily, pending completion of The Texas Pipe Line Company's six-inch screw line from Jal station to the 37,500-barrel steel tank on the Lynch land. Contract for construction of this line has been awarded to the Macpherson Contracting Company, Dallas, and the completion date for late in August. About 46 miles of pipe will be strung.

Humble Pipe Line Company has started surveying route for a line to extend from the Jal station of its eight-inch line across east-central Lea County to the Hobbs pool, located in township 19S-38E, using either six or eight-inch pipe. About 70 miles of pipe will probably be required for this proposed extension line, including branch lines to wells completed and drilling along the route.

Knowledge Speeds Drilling

Drilling time is being materially lowered in Lea County as operators become more familiar with underground conditions and equipment requirements. Humble Oil & Refining Company's M. Lindley 1, located 660 feet from the northeast corner of Section 23-25S-26E, and an east offset to Cranfill-Reynolds et al's small pumper on the Wilson land, has set a new record for elapsed time in reaching the oil horizon. This test was spudded with a Sheldon-Burden rotary rig on June 11, and late last week encountered top of the brown lime at 2965 feet, with oil saturation at 2965-67 feet. A string of 8¼-inch casing has been cemented at the latter depth. The test will resume drilling early this week.

The joint test of Cranfill-Reynolds, Inc., and Magnolia Petroleum Company on the Meyers wildcat block, located in the northeast corner of the SE¼ of Section 22-24S-36E, and about six miles north of production, encountered one million cubic feet of gas at 3175 feet after topping the brown lime at 2968 feet. This wildcat logged the top of the white lime at 3192 feet, with a surface elevation of 3337 feet, and developed 600 feet of oil in hole with good gas flow at 3254-60 feet. In the event this or other joint tests with Magnolia Petroleum Company furnish flush oil production, the Magnolia Pipe Line Company will extend its trunk line system from Winkler County into New Mexico to run the oil for purchase.

On the western edge of Lea County, The Texas Company's E. L. Humphreys-government fee 1, located in the northeast corner of the SW¼ Section 18-20S-32E, has been ordered plugged and abandoned at 3105 feet, with 200 feet of sulphur water in the hole. This wildcat logged salt at 845 to 2455 feet, and top of brown lime at 2527 feet, with a surface elevation of 3465 feet. The top of the white lime was reported at 2720 feet.

A second test has been authorized by the Grayburg Oil Company of New Mexico on its large block of government permit lands in eastern central Eddy County, near Maljamar field, after having completed a 125 barrel pumper from Burch Permit 2, Section 19-17S-30E, at 3035-3142 feet. Location has been made for W. M. Keely govern-

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ment Permit 2 at the center of SE¼ of NE¼ of Section 24-17S-29E. Western Drilling Company has been awarded the contract at $3.75 per foot, using cable tools, and supplying own fuel and water. The Illinois Pipe Line Company's Maljamar field gathering line is serving the Burch well and paying a flat price of $1.08 per barrel.

Continental Executives on Tour of Properties

Wichita Falls, Texas.—Officials of the Continental Oil Company of Delaware, headed by Dan J. Moran, president and general manager, visited the producing and refining properties of the company here last week as one of the first important stops on a 5000-mile tour of inspection of the producing, refining and marketing properties of the old Continental Oil Company and the Marland Oil Company. The tour is being made in a parlor car type of bus, which is equipped with all modern conveniences for overland transportation.

W. N. Alexander, who has been in charge of production for the old Continental Oil Company in Texas, with headquarters in Wichita Falls, and Geo. H. McIntyre, manager of production and pipe line activities of the Marland Production Company in Texas and New Mexico, with headquarters at Fort Worth, joined the group here, and stayed with the party until imporant fields in Central West and West Texas districts had been covered.

Moran announced that for the time being there would be no important changes in the personnel of the Texas organizations of the old Continental Oil Company and Marland Production Company, although the two will be united into one organization in the near future, with either Wichita Falls or Fort Worth as the operating base.

Those making the overland tour of inspection with Moran follow: E. T. Wilson, chairman board of directors; E. J. Nicklos, vice-president, charge of production; Walter Miller, vice-president, charge of manufacturing; E. S. Karstadt, vice-president, charge of marketing; W. H. Ferguson, executive vice-president; B. H. Markham, comptroller and assistant to president; J. J. Cosgrove, general counsel; O. B. Lloyd, sales; Harry Moreland, pipe line; Tom Kenney, pipe line; E. O. Bennett, chief engineer; G. C. Clark, geological; J. M. Hollister, general manager plants and equipment; H. B. Simcox, production; E. C. Halsey, manager service stations; J. S. Curtis, South sales manager; Emerson G. Smith, supervisor of publications; Fred Searles, director; T. D. Harris, manager motor transportation; S. J. Trilling, secretary; John L. Wilson, representative Mack Trucks, and T. Lachenmayer, driver-mechanic.

L. E. "Joe" Wyatt has established headquarters in Houston and will serve the Gulf Coast as factory representative of the American Cable Company. He will be found at the offices of the Mid-Continent Supply Company.

Shallow Pool in Crockett County Is Probable

SAN ANGELO.—A new shallow pool for Crockett County appeared promising early this week when W. A. Moncrief and associates' wildcat test on the Robert Massie ranch, Section 47, Block "UV" G.C.&S.F. Ry. Survey, developed 1000 feet of oil in the hole with a light flow of gas from saturated lime at 1417 to 1420 feet. This test encountered sulphur water about 100 feet above this oil horizon, and made a successful shutoff with six-inch casing. It is unusual for tests in this section of West Texas to develop production below the sulphur water level.

In Irion County, the wildcat test of W. W. Brown, Perry Fox and others on the Tankersley land, Section 712, Ford Willig Survey, swabbed 60 barrels of oil late Saturday from sand at 1333 to 1335 feet, and is now rigging up to pump, with prospects of a 30-barrel producer, or better. This test is about one-half mile west of a small pumper that gave the county its first oil producer.

The eastern edge of the Gulf-O'Brien field, Ward County, is to be given a test for production shortly by Continental Oil Company on the Sealy ranch, Section 81, Block "A." Gulf Production Company has been alone in the development of this prospective major oil field through having an immense block of leases, and the above new test, which is to be drilled on a short time lease will throw some light on the width of the field.

Taylor-Link Oil Company's wildcat discovery well on University land, Section 30, Block 16, Pecos County, flowed 132 barrels during first 20 hours after cleaning out hole with sandy-lime oil horizon at 1613-28 feet. This test was flowing an average of 120 barrels of oil and small percentage of water daily late in June, and in order to cut off this upper water a string of 6⅝-inch casing was cemented with 75 sacks at 1555 feet. A south offset will be drilled by the above company to the discovery well, and this new test will be offset to the west immediately by the World Oil Company's University 1-B. The World Oil Company has made location for University 1, located in the northwest corner of the NW NE Section 31, Block 16, or about half mile southeast of the producer. The California Company is soon to move in materials to drill in the southeast corner of Section 12, thus offsetting the discovery well and the other two tests to be drilled.

In the Pecos Valley area, located in north central part of Pecos County, John McGee-Doran et al's Pecos Valley Oil Company fee 1, located in the south corner of Section 34, Block 3, H.&T.C. Survey, is plugging back from sulphur water at 1670 feet to save a two million cubic foot flow of gas and light spray of oil encountered at 1540-41 feet.

Gulf Production Company is moving in rotary rig for the drilling of its fourth test in the O'Brien pool, Ward County, having made location for G. W. O'Brien 6 in the southeast corner of NE Section 20, Block F, G.&M.M.B.&A. Survey, or about midway between its O'Brien discovery well and the north extension. The latter known as O'Brien 5 encountered water at 2855 feet and when plugged back to 2830 feet flowed 90 barrels daily. It is producing from sandy-lime at 2610-2830 feet, and tubing is being run to try and boost the natural flow. Rotary equipment is being rigged up on the company's Hutchings 2, which was reported last week as having a gas blowout at 2529 feet while fishing for tools.

Howard County

Howard County contributed the bulk of the new production credited to the West Texas district during the past week, but mostly from inside locations. Amerada Petroleum Corporation and Rycade Oil Corporation's Roberts 10 is credited with an initial production of 800 barrels from broken lime at 2929-31 and 2946-64 feet. Humble Oil & Refining Company's H. R. Clay 3 pumped 500 barrels of clean oil on initial test at 2933-40 feet, with a total depth of 2964 feet. Howard County Oil Corporation's Kloh 2 widened the Settles pool one location to the northwest with an estimated production of 30 barrels of pipe line oil per hour on pump after shot of 180 quarts at 2315-30 feet. This latter test is being offsetted to the east by the Plymouth Oil Company and on the north by Pure Oil Company.

The California Company's Roberts 6, lease 2, Section 137, Howard County, pumped 686 barrels of 28 gravity clean oil on initial gauge from lime at 2948-78 feet. This company's Roberts 2, lease 2-B, which has been one of the few large wells in the Roberts area that escaped the sulphur water intrusion became a victim July 4 while pumping about 825 barrels daily of 29 gravity oil, although offsets have been showing water for some weeks. This well has been pumped about 500 feet off bottom since its completion in February, and avoided lowering the fluid below this level. Temperature tests have been recorded each day in anticipation of water encroachment, and when water began appearing the temperature jumped from 70 to 72°, and on the second day the temperature climbed to 77°, with three per cent. water showing.

Shell Petroleum Corporation has taken on additional producing properties in the Roberts-Chalk area, paying $120,000 cash for the holdings of the Coyle-Concord Oil Company in Sections 135 and 156, including six shallow wells averaging about 13½ barrels daily each, and one deep well making 175 barrels daily on pump, with a high percentage of water being handled to obtain this much oil.

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HOUSTON

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Gray County Production Expected to Increase

AMARILLO, Texas.—Results of the active drilling campaign conducted in Gray County section of the Texas Panhandle district for the past month or more is beginning to be reflected in current completions, and during the past week eight new wells contributed a combined initial production of 8495 barrels. With 93 active tests underway, or setting casing to penetrate the oil and gas horizon in this county, completions are due in at rate of eight to 12 each week for the next month, and a substantial gain in production is assured. In the face of a small quota of new production within the past several weeks, Gray County maintained an average production of 46,880 barrels daily during the past week from 377 flowing and pumping wells, or an average of 124 barrels daily per well.

Phillips Petroleum Company led off gain this past week on new production through having completed its J. H. Palmer 3, located in the southwest corner of east 83-acre tract in Section 31, Block B-2, with an estimated flow of 300 barrels of high gravity oil per hour at 2880 feet. This well encountered 50 million cubic feet of gas at 2738-2822 feet, and Palmer 2 was completed as a 1320-barrel producer and for 33 million cubic feet of gas at 2837-43 feet. Operators Oil Company's Cook-Faulkner 2, an east offset to the latter well, gauged 4300 barrels natural, with estimated flow of 40 million cubic feet of gas, at 2840-43 feet. Continental Oil Company's (Marland) Finley-Brown 4, located along north line of Section 32, was completed Friday with an initial flow of 59 barrels of clean oil per hour from regular granite wash formation at 2872-80 feet. Champlin Refining Company and Danciger Oil & Refining Company's Cook-Faulkner 1, widened this particular area several locations to the east by flowing 25 barrels of oil per hour from top of granite wash at 2855 feet.

Extension Unlikely

Efforts of Phillips Petroleum Company's Jackson-Cox 1, located in the northeast corner of Section 58, to connect the above prolific area with the original Bowers-Jackson field, were somewhat doubtful early this week when only a small show of oil appeared in granite wash formation at 2924-29 feet. This test is credited with having logged red beds at 2930 feet, but is to be deepened to the water horizon unless production is found in a second layer of granite wash. Should this test develop a big producer, sufficient new locations will be started on acreage lying to the east and west to necessitate the bringing in of more heavy rotaries from West Texas and Seminole to meet the demand for rigs.

The Texas Company's Bruce Bull 2, located on the east line of Section 2, Block B-2, H.&G.N. Ry. Survey, and a short distance southwest of Lefors, flowed 960 barrels in 18 hours from granite wash at 2770-2816 feet.

In the western part of Gray County, the Cockrell-McIlroy Interests' J. C. McConnell 2, Section 174, Block 3, I.&G.N. Ry. Survey, increased its production to 400 barrels daily when given a swabbing test from regular pay at 3152-90 feet, with a total depth of 3252 feet.

Wildcat Adds New Link In Wilbarger County

Wichita Falls, Texas.—Another link was added to the series of pools in process of development on the Waggoner ranch in Wilbarger County during the past week when the Dixie Oil Company's W. T. Waggoner 1 swabbed 170 barrels daily from sandy-lime at 2387-95 feet. This producer is considered a wildcat, and is located in the northeast part of the northeast quarter of Section 4, Block 5, H.&T.C. Ry. Survey, being about one and one-half miles south of the Consolidated pool.

The Waggoner ranch development has been under way on a large scale for the past three months, and has also been the major source of new production in North Texas during this period, with drilling obligations carried by most of the Waggoner lease contracts causing an uninterrupted drilling program until all locations have been taken care of. The Waggoner Refining Company's Waggoner 4-J was the largest producer added during the past week, having swabbed and flowed 650 barrels of high gravity oil daily from sand at 1861-88 feet. The Lewis Production Company's Waggoner 2-B swabbed at rate of 400 barrels initial at 2407-28 feet, while a similar calibre well was completed by the Consolidated Oil Company's Waggoner 5-O from sand at 1859-75 feet. Barkley & Meadows' first test on their Waggoner B lease is showing for a 200-barrel producer on the swab at 2435 feet.

In the southeast part of the Electra field, a number of new wells are in process of completion with initial outputs above the general run of completions for Wichita County. Golding-Cochran et al's Waggoner Brothers 6 is reported to have swabbed 350 barrels daily at 1291-1301 feet while cleaning out to put on pump. The Texas Company's Waggoner Brothers 7 pumped 220 barrels daily at 1285-99 feet after making a higher initial on a swabbing test. W. H. Hammon et al's semi-wildcat test on the Bradley Brothers land, located in the lower end of Wichita County, is credited with having pumped about 30 barrels of oil and some water on initial test from sand at 1689-93 feet, and two offsets have been ordered drilled by these interests.

Yates Field Producers Have Plenty Line Outlets for Production

(Continued from page 41)

While the allowable production in the Yates field is limited to 130,000 barrels daily, the three producing units that are salvaging seepage oil daily from pits, trenches, shallow wells averaging 32 feet in depth and from banks of the Pecos River are delivering an additional 7500 barrels daily to pipe lines without being reflected in proration quotas. Continental Oil Company (Marland) is recovering about 6300 barrels of seepage oil daily, and the remainder is picked up by Grayburg Oil Company and the Mid-Kansas-Transcontinental interests. Humble Pipe Line Company and the Illinois Pipe Line Company are transporting all seepage oil recovered.

Shell Increases Runs

The Shell Pipe Line Company has lately materially increased its crude runs from the Yates field, thus aiding in filling of its two 10-inch trunk lines, extending from West Texas to Houston and middlewestern refineries. This concern is handling the 6010 barrels of daily allowance earned by Shell Petroleum Corporation, and is taking 8181 barrels daily for purchase from the properties of the Simms Petroleum Company. Approximately 7500 barrels daily is being run from The California Company's Smith, Yates and Tippett leases, while the remainder is obtained from the Yates A, B, D, and G leases of the Mid-Kansas-Transcontinental interests. Gulf Pipe Line Company has been contented all along to restrict its crude runs in West Texas to the oil produced by Gulf Production Company, which has a surplus production.

Humble Pipe Line Company is taking care of the bulk of the smaller producing units in the field in addition to running 3301 barrels daily production quota earned by the Humble Oil & Refining Company. This company is running about 10,000 barrels daily from the properties of The California Company and taking some oil direct from leases held by the Mid-Kansas-Transcontinental interests. Humble Pipe Line Company is the pioneer crude purchaser in the field, and early this year made a long time contract to receive approximately 40,000 barrels of Yates field crude daily from the Illinois Pipe Line Company at Lytle Station, located on the south end of the Kemper-Ingleside combination 10- and 12-inch trunk line system.

Pipe line companies with a foothold in the Yates field have little difficulty in maintaining "outside" connections as long as service and treatment of producers is on a par with other purchasers, and can operate very economically, since production is on a restricted basis, with temporary flush output eliminated. Only a small per centage of the current production needs treating, and a uniform gravity of oil prevails throughout the field. Since Humble, Shell and Texas interests are earnestly soliciting any additional oil that may be had for purchase, the smaller producing units in the field have a good field to choose from in picking their market outlets.

XUM

News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

Santa Fe Springs Gets Another Boost; Decline May Start Soon

LOS ANGELES.—The O'Connell zone at Santa Fe Springs hit its stride the past week with 15 completions furnishing a total flush production of about 50,000 barrels. Of the 15 completions, eight were new wells and seven recompletions. Another increase is expected next week in this banner field, and then the decline is expected to set in, and will continue until a number of wells can be completed in the lower Clarke, which is expected to be very prolific, from the standpoint of both gas and oil.

Sixty wells were producing from the O'Connell zone late last week, with an average of about 3400 barrels to the well, while the 48 wells producing from the Buckbee zone were averaging only 575 barrels to the well. The 27 producers in the Nordstrom zone were doing better, with a well average of 850 barrels. Seven wells have penetrated the upper and lower Clarke, but none of the wells have penetrated the lower Clarke to a point where the worth of the lower zone can be ascertained.

O'Connell Zone Prolific

The O'Connell zone has proved to be very prolific, but it will soon begin to show a very heavy decline, since this zone is only about half as large as the Meyer, which brought the previous high production peak. The lower Clarke zone is the unknown quantity and what it does will give an answer to what can be expected of the field in the next few months. The Clarke zone will cover an area equal to the Meyer, practically double that of the O'Connell.

The lower portion of the lower Clarke, penetrated by one well, is expected to show an unusual high gas pressure, but probably the gas volume will be less than the O'Connell. The high gas pressure is worrying some of the operators as they fear they will have a lot of trouble from blowouts, etc. One well after penetrating the lower Clarke started out with a 900 pounds casing pressure and registered 1000 pounds, limit of the gauge, in a few minutes, with an inch bean handling the flow. It is thought the pressure built up to exceed 1500 pounds. One field superintendent predicts a pressure of 2000 pounds on some of the first wells with deep penetrations.

The Clarke zone is divided into three parts, with shale ledges in between each division. This Clarke zone has been penetrated on two edges of the field, but so far no hole has reached it in the center, where the pressure is expected to be the greatest. There is a shale ledge between the lower Clarke and lower portion of lower Clarke on the edges sufficient for cementing a string of casing, but there is no water in it. In fact there is no water sand in the shale between the O'Connell and upper Clarke, making it possible for a well to produce from the O'Connell and the Clarke at the same time.

General Petroleum Corporation completed one well in the O'Connell and a few feet of the upper Clarke for 9600 barrels of pipe line oil. Bandini Petroleum Corporation also reported a well producing nearly 10,000 barrels from the O'Connell, while Commodore Petroleum Company also reported a new well yielding around 6000 barrels. Bandini Petroleum Corporation and Commodore Petroleum Company are controlled by Wilshire Oil Company, which has six wells on top of the O'Connell ready for completion in the next couple of weeks. Wilshire Oil Company is building 1,000,000 barrels of additional steel storage.

Rush Until September 1

It is very likely that many of the companies at Santa Fe Springs will get all the production possible prior to September 1, at which time the new gas law will become effective. After that time, the company producing gas that will go to waste will have to answer to state authorities, and it is expected that most of them will make arrangements in the meantime to obey the law. But the intervening weeks is another story. One of the larger companies is reported to be flowing its wells at a gas-oil ratio just double another company close by. In fact, most of the wells in the O'Connell with flush production are producing much gas with the oil, with an extremely high gas-oil ratio. This practice will be stopped when the new law is effective.

At Long Beach, nine new wells furnished only 3000 barrels new production, but several completions over the previous week-end served to hold up the production in this field. Drilling wells at Long Beach number 104, and 21 holes are deepening. But new wells are furnishing smaller and smaller initials, and for that reason it is expected that the decline will be steady, but not large, for the rest of the year.

Huntington Beach is very quiet, with a settled production around 43,500 barrels. Production in this field is expected to hang around 40,000 barrels a day for several weeks. Seal Beach will hold its own as the older part of the field reports several drilling wells, with a completion often enough to about offset the natural decline.

Shut-in Production Given For California

Los Angeles.—According to a recent tabulation, California is credited with a total daily average shut-in production of 133,520 barrels, of which 52,800 barrels is light refinerable crude. This shut-in oil dates back prior to the beginning of the recent effort to curtail the state's production. Much of it has been shut in for two years and more.

The shut-in production is divided as follows:

Field—	Barrels
Coalinga	24,000
Coyote	2,000
Elk Hills	14,500
Fullerton	8,000
Inglewood	1,100
Fruitvale	4,100
Kern Front	14,000
Kern River	4,600
Lompoc	1,400
McKittrick	250
Lost Hills-Belridge	4,400
Midway-Sunset	23,000
Mount Poso	13,800
Round Mountain	9,000
Santa Maria	5,350
Ventura Ave.	4,000
Newhall	20
	133,520

New Summerland Well Sands Up After Flow

Los Angeles.—Lincoln Drilling Company's Williams 1 at Summerland swabbed July 4 for two flows at the rate of about 20 barrels an hour of 20 gravity oil, with bottom at 1250 feet. String of 11¾-inch casing had been cemented te 1045 feet. The well sanded up and is being cleaned of mud, sand and Baroid. String of 2½-inch tubing late in week was being run in and an early test is expected. This company controls about 70 acres just up from the water front and within 150 feet of two old pumpers on water's edge.

Old wells have been on the pump at Summerland, out in the water, for more than 25 years, with production coming from around 600 to 900 feet, the oil being an average of 14 gravity. The new well has some gas, but the pressure is not as great as first expected. George F. Getty holds leases on a large tract near the new well and is to drill an offset. He is waiting for the outcome of the test on the Lincoln Drilling Company's hole.

Independent Producers Organize for Market

Huntington Beach.—Producers of heavy crude oil at Huntington Beach have perfected the organization of an association to make an effort to secure a better and improved market for their oil, and it is expected that producers of this grade of crude in other fields will join the organization. For the present the association has an agreement with a small refinery at Huntington Beach to take all production. The refinery will run the crude, 14 gravity and lower, and find a sale for road work, making asphalt and other products.

E. A. Neiger is president, J. H. Elliott is executive secretary and Thomas E. Hodges is general manager of the association, with offices at 1107 Van Nuys Building, Los Angeles.

Gulf May Have Found A New High Gravity Field

Los Angeles.—Action of the Western Gulf Oil Company's Hollister 1 in Santa Barbara County indicates that the Company has another field to its credit in California, and it is expected to produce light gravity oil. This well was drilled to 3115 feet and a string of 11¼-inch casing was cemented at 3085 feet.

Some two weeks ago the wildcat blew out and ran wild for about a week before being controlled, making about 25,000,000 cubic feet of gas, a spray of oil and a lot of very hot salt water. After bringing well under control, it was recommended and drilled out for a test on July 4. The test proved that it was still wet and late in the week was again standing cemented.

Hollister 1 is located seven miles west of Gaviola Creek, about 150 feet from the ocean, 10 miles southwest of Las Cruces and 47 miles west of Santa Barbara. Western Gulf Oil Company holds under lease close to 2200acres with first call on the nearby acreage, thus giving the company complete control of the entire structure and making it impossible for any company to drill within several miles of the wildcat.

This company last year proved a field at Fruitvale, just outside of the city limits of Bakersfield, but the oil was low gravity and the company now has close to 5000 barrels of daily production shut in, awaiting a more favorable market.

World's Deepest Hole Nearing 9000 Feet

Los Angeles.—Shell Oil Company's Nesa 11, at Long Beach, deepest hole ever drilled in the world, at 8 a. m. July 6, had reached 8932 feet. It is drilling still. A string of 8⅝-inch casing was cemented at 5153 feet, giving the well 3779 feet of open hole. Drilling is to continue until a deep oil sand is found that is worth testing or until serious trouble is encountered. Stringers of oil sand have been picked up at various depths but not showing worth a test has eventuated.

Work Progressing on Pipe Line to Pacific

Los Angeles.—Work is progressing on a 70-mile, 10-inch pipe line for the Standard Oil Company of California from Kettleman Hills to a point on Moro Bay, 15 miles from San Luis Obispo.

On the bluff overlooking Moro Bay, a site for a tank farm has been secured and at least 500,000 barrels of steel storage will be built at once, and other tanks added when and if needed. A sea line will be pulled out to deep water for loading tankers. This line will be completed and ready for operation in plenty of time to take care of any increased production at Kettleman Hills.

Rincon

Los Angeles.—Richfield Oil Company's Hobson Fee 1, is drilling ahead at Rincon and has passed 7450 feet, with no showing of worth. In this field 29 wells are on production and only four drilling jobs are active. Five other wells are idle, waiting to see if the Richfield Oil Company's deep test will find a lower sand. The field is credited with an average daily production of 3500 barrels.

Well Secures Shut-off In Upper Clarke Zone

Los Angeles.—Late last week Shell Oil Company's G H & N 18A was completed at Santa Fe Springs for 832 barrels of 27.3 gravity oil in 16 hours at 6522 feet in the upper O'Connell sand. This well is on edge and the production cut is 20 per cent.

The Texas Company's Wickman 5 in same field came in late in week at 6838 feet in O'Connell sand for 5253 barrels in 14 hours. Gravity of the oil was 33.2 and the cut was less than 2 per cent.

Shell Oil Company's Slusher 16 secured a good water shutoff on the upper Clarke at 6839 feet, which is first water shutoff in this new sand in western part of Santa Fe Springs field. The well was being swabbed with bottom at 6889 feet late in the week.

Ventura Avenue

Ventura.—The M. K. T. Oil Co.'s Foster 2 at Ventura Avenue has been completed for 340 barrels of 23.8 gravity oil, cutting 24 per cent., with bottom of hole at 7369 feet. The field reports 46 wells actively drilling with 21 standing idle, in addition to 10 rigs and eight locations. A total of 152 wells are on production while 23 wells are completely shut-in accounting for about 4000 barrels of shut-in production reported from the field. This shut-in production is a part of the old conservation movement, and not a part of the recent curtailment movement, which fizzled.

Moncrief Interested In 11 West Texas Wells

San Angelo, Texas.—W. A. Moncrief, Fort Worth operator and formerly vice president in charge of Texas operations of the Marland Production Company, is the most active wildcatter in West Texas. He has a substantial interest in 11 tests that are under way, or scheduled to be drilling within a few weeks. Moncrief is making the majority of his "bets" in Northern Pecos County, where six widely scattered tests are to be drilled into the lime horizon, probably not exceeding 2000 feet in depth, including two each on Univesity fee lands in block 18; two on the Jennie Sullivan ranch in block 11, H&GN Ry. Survey; and one each on the J. H. Tippett and F. E. Toberg ranches.

In Crockett County, Moncrief is drilling on the R. Massie land below 1400 feet and on the R. A. Andrews ranch, while a third try for production on the J. S. Todd ranch is to be started shortly after recently completing a pair of dry holes. Moncrief has a one-quarter interest in a Howard County wildcat being drilled by the Fuhrman Petroleum Corporation on the Read ranch. In Borden County, Moncrief is associated with Humble Oil & Refining Comjany for a minor interest in drilling a 3500-foot test on a 4400-acre block, centering on the S. I. Munger ranch.

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Oklahoma--Kansas Field Notes

WARREN BAKER, *Staff Representative, Tulsa, Oklahoma*

Sasakwa Pool Assumes Importance As Producing Area

TULSA.—So suddenly has the north Sasakwa pool bloomed forth as an important new field that few realize its importance. This field was discovered in the middle of 1928 with shallow sand production. Little attention was paid to it after the Wilcox sand was shown to be carrying water. Two weeks ago Sinclair Oil & Gas Company drilled in the first Wilcox sand producer for 4000 barrels daily. Since that time things have been popping in the field, as drilling wells were carried deeper to the new producing horizon.

The field now has seven producing wells making 13,345 barrels according to the latest gauge. It also has a proven area extending over one mile. Companies owning acreage in the region are now busy preparing a drilling campaign that may assume large proportions before the play is completed.

The past week Sinclair Oil & Gas Company completed two new wells. Davis "A" 3, SW SE Section 7-6-8, topped the Wilcox sand at 4190 feet and after drilling to 4200 feet was flowing 2888 barrels daily. The same company's Davis "A" 4, SE NW SE Section 7-6-8, found the Wilcox sand from 4200-07 feet and is making 1360 barrels daily.

The discovery Wilcox sand well, Sinclair Oil & Gas Company's Davis "A" 2, SW NE SE Section 7-6-8, flowed 3184 barrels the last 24 hours gauge. It was deepened to 4483 feet without increasing the production.

Prairie Oil & Gas Company's Wolfe 1, NW NE Section 18-6-8, south most well in the field, is flowing 3130 barrels. Signal Oil Company and Pure Oil Company's Bond 1, SWc NE Section 13-6-7, which is one of the highest structural wells in the field, and which extended the pool one mile southwest last week, continues to flow 1025 barrels daily from only six inches in the producing horizon. Shell Petroleum Corporation's Holutke, SW NE SE Section 7-6-8, is producing 1470 barrels daily.

First Well Small

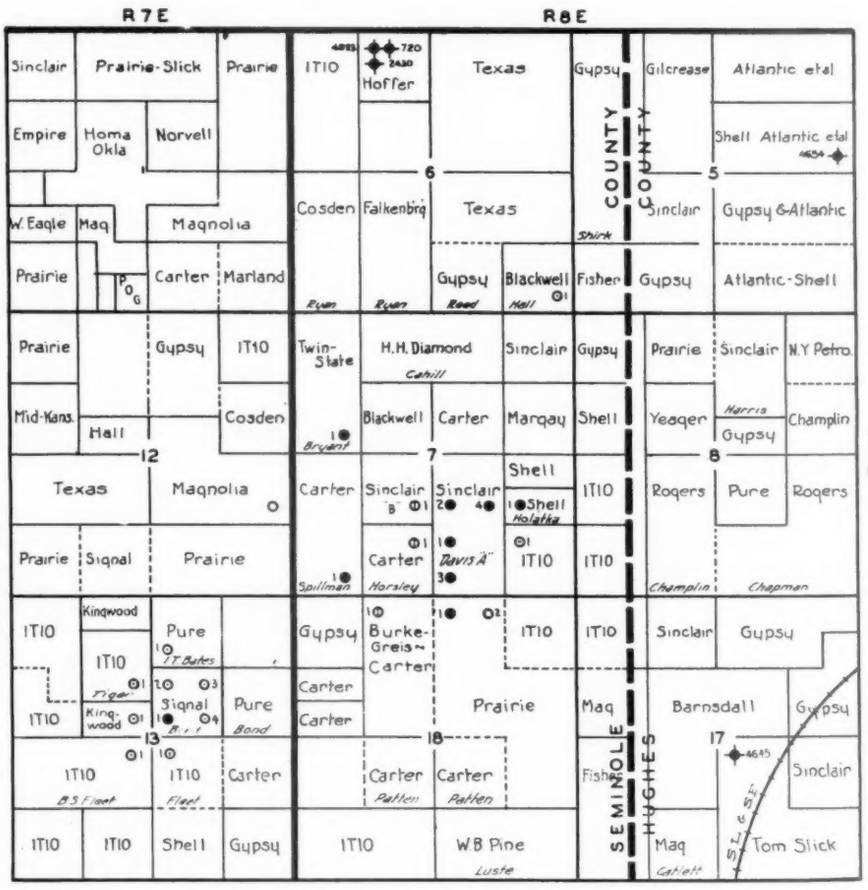
The first completion in the field was the Carter Oil Company's Spillman 1, SE SW SW Section 7-6-8. This well had a sand at 2984-2994 feet, with 13,000,000 feet of gas and a spray of water. It was plugged back to 2891 feet and shot with 20 quarts from 2831-2900 feet. Its initial production was 40 barrels of oil and 10 barrels of water and 10,000,000 feet of gas daily.

Sinclair Oil & Gas Company's Davis "A" 1, NW SW SE Section 7-6-8, was completed April 23, 1929. It had the Woodford at 3850 feet, the Viola lime at 4042 feet, the top of the Simpson sand at 4097 feet and the Wilcox sand at 4199 feet. Total depth was 4201 feet, where it found water in the Wilcox sand. The hole was plugged back to 4164 feet. Initial production of the well was 957 barrels from the Simpson and Viola formations. This well is still producing 288 barrels daily.

Twin State Oil Company's Bryant 1, SE SW NW Section 7-6-8, is another small producer. This well completed shortly after the Carter Oil Company's Spillman, made 40 barrels daily from the Cromwell sand at 3175-3231 feet. It is now being carried deeper.

Oklahoma City Ready For New Completions and Tests

While waiting on completion of a few tests due to reach the producing horizon at once, Oklahoma City operators are busy pureparing to start a number of new tests. A total of 20 new drilling wells at once is now the prospect for the state's deepest producing field as a result of the fine performance and results that have been obtained so far in its history. It is possible that the development of the field may be thrown wide open, as some of the proposed new tests are not approved by the development committee. If such will be the case 30 wells will shortly be under



Sasakwa Pool

way, it is thought, which would call for an expenditure of nearly $5,000,000.

The last production gauge of the field was 20,112 barrels from six wells. A production report is as follows:

Coline Oil Company's Olds 1, C SE NW Section 24-11-3w, 5280 barrels;

Indian Territory Illuminating Oil Company and Foster Petroleum Company's Fee 1, C SE SE Section 24-11-3w, discovery well, 2077 barrels oil and 747 barrels of water;

Mid-Kansas Oil & Gas Company's Fortson 2, C NW NE Section 24-11-3w, 5620 barrels;

Sinclair Oil & Gas Company's Stamper 1, NE SW NW Section 30-11-2w, 5282 barrels;

Sinclair Oil & Gas Company and Amerada Petroleum Corporation's Kinter 1, NWc SE Section 30-11-2w, 1755 barrels of gasoline;

Mid-Kansas Oil & Gas Company's Fortson 1, C SW NE Section 24-11-3w, 95 barrels.

A very disappointing development of the week was the failure of the Mid-Kansas Oil & Gas Company's Fortson 1, C SW NE Section 24-11-3w, to find the big producing stratum. The well was last drilling ahead at 6467 feet, still in lime, but making only 95 barrels daily. This performance puzzles operators since Fortson 2 to the north and the discovery well to the south are both fine producers. Drilling is going ahead in hopes of finding production lower.

Indian Territory Illuminating Oil Company and Foster Petroleum Company's Button 1, SWc Section 19-11-2w, northeast most producer in the field, drilled out the plugs at 6373 feet and blew in at an estimated rate of 10 to 15 barrels per hour. The hole soon bridged, but it continued to spray some oil.

Sinclair Oil & Gas Company's Stamper 1, NE SW NW Section 30-11-2w, was deepened one foot to 6499 feet and increased its production to 5285 barrels from 4865 barrels. The increase in production came after the well started slumping rapidly and is thought by some to be a second pay level.

St. Louis Developments

Developments in the Link area, between St. Louis and Pearson pools, continued to look poorly during the past week. Darby Petroleum Company's Nixon 1, SWc Section 9-7-4, direct north offset to the Independent Oil & Gas Company's Rhodd 1, which came in for a large well, has a total depth of 4090 feet in the Simpson sand penetrated at 4035 feet. It made 250 barrels of oil and when the bailer was run found 400 feet of clear salt water in the bottom.

Independent Oil & Gas Company's Rhodd 1, NWc Section 16-7-4, dropped to 1850 barrels daily, and is cutting 2½ per cent. water and one-half per cent. basic sediment.

Erwin & Martin, Keistler & Manning, Shaffer Oil & Refining Company, Sinclair Oil & Gas Company and McGraw Oil Company's Kelly 1, SEc NE NE Section 2-7-4, reached the Simpson sand at 4065 and at 4092 feet swabbed 50 barrels. It also produced 190 barrels from the Hunton lime.

East Little River Field

Mid-Continent Petroleum Corporation's Smith 8, SE SW NE Section 5-7-7, was shot with 20 quarts and produced 5045 barrels afterwards. The same company's Smith 6, NE SW NE Section 5-7-7, had the Wilcox sand at 4240-51 feet and swabbed 200 barrels of oil in six hours. It was to be deepened.

Prairie Oil & Gas Company and Tom Slick's Carr 1, NW NE NW Section 9-7-7, was opened up and swabbed 717 barrels of oil in 18 hours. Wilcox sand was from 4347-48 feet. It was shut in for tankage.

Asher Townsite Well

The first producer on the Asher townsite is the Commerce Development Company's Townsite 1, SWc NE NW Section 19-6-4, one-half mile west of production. The well topped the Viola lime at 3683 feet and at 3687 feet with the hole partly cleaned out after cementing the eight-inch casing the well blew in for 500 barrels the first seven hours and was making 80 barrels per hour.

Two New Producers in Robbins Pool, Sedgwick County

WICHITA.—Two new producers were completed in the Robbins pool south of Wichita, in Sedgwick County, Kansas, during the past week. George R. Dickey's Nolan 1, SE SE NE Section 20-28-1e, began flowing at 3095 feet after encountering oil at 3093 feet in the chat topped at 3090 feet. The well produced 100 barrels of oil in nine and one-half hours, with 1,500,000 cubic feet of gas.

The fourth well to be completed in the field was the Shell Petroleum Corporation's Nolan 1, SW SW NW Section 21-28-1e. This well started making hourly heads of 15 barrels in 15 minutes and had 1,000,000 feet of gas. The well produced 162 barrels the first full 24 hours from chat at 3086-3105 feet. Two more wells are now drilling near the producing level in the pool.

The discovery well of Shell Petroleum Corporation, Shawver & Dickey et al on the Robbins farm, in Section 21-28-1e, continues to produce around 450 barrels daily and the White Eagle Oil & Refining Company's Robbins 1, Section 20-28-1e, is producing 100 barrels daily.

McPherson Area

Shell Petroleum Corporation's (McPherson Oil & Gas Company) Ritz 1, NW SE SW Section 1-20-2w, southeast of McPherson, in McPherson County, which startled Kansas, operated last week by flowing 368 barrels the first 90 minutes, is still pinched and making approximately 1000 barrels daily. It is waiting on pipe line connections. The producing horizon is chat. Shell Petroleum Corporation owns a large block surrounding the new producer. McPherson Oil & Gas Company drilled the test but held only gas rights and Shell Petroleum Corporation has taken the new producer over.

Ted Washabaugh's Voshell 1, NW NE NE Section 9-21-3w, the important test in this district which has been closely watched during the past few months as it tried to overcome many fishing jobs, is making 25 barrels daily. It succeeded in getting the hole cleaned up and drilled out the cement and made some hole but is now faced with another fishing job.

Western Kansas

Prairie Oil & Gas Company and Tom Slick's Sellans 1, SW NE Section 36-15-13w, wildcat discovery well near Hosington, Russell County, produced 236 barrels daily last week.

Gypsy Oil Company's Kincaid 1, southeast of Kingman in Kingman County, topped the lime at 3995 feet and had the base of the lime at 4225 feet. Casing is now being set at 4288 feet. Interest is being shown in this well due to it runnning very favorable.

Milmac Oil Company's Robben 1, SW NW Section 15-14-16w, a wildcat in Ellis County, has found a hole full of water in the Gorham sand at 3478 feet and appears to be dry.

Water at Valley Center

Continental Oil Company, Gypsy Oil Company, and Bu-Vi-Bar Petroleum Company's Lantz 2, SEc Section 12-26-1w, the south most test in the Wright district of the Valley Center pool, found the lower dolomite at 3365 feet and at 3370 feet had filled up 1500 feet with fluid. It was plugged back to 3368 feet and the water shut off. It swabbed 85 barrels.

Producers & Refiners Corporation's Kuske 1, NE NE SE Section 24-25-1e, swabbed and flowed 567 barrels in 24 hours.

Sedgwick County now has 93 producers which made 35,968 barrels last week. Continental Oil Company, Gypsy Oil Company and Bu-Vi-Bar Petroleum Company had an output of 21,087 barrels daily from 41 wells.

Empire Oil & Refining Company's Covert 1-A, SE SW SE Section 3-28-5e, south of the Haverhill field in Butler County, is showing low gravity oil in the top of the Viola lime at 3115 feet. Water was encountered three feet in, which has been shut off. Empire Oil & Gas Company is going to make a pumping test.

Barnsdall Corporation's Samuels 1, NEc NW Section 24-25-1e, Sedgwick County chat wildcat producer which failed to hold up, has found a hole full of water in the Simpson sand at 3480 feet.

Gulf Coast Field Developments

JACK LOGAN, *Staff Representative, Houston, Texas*

Humble May Have Natural Gasoline Plant Soon

HOUSTON.—South Texas Petroleum Company (Cullen and West interests) is considering construction of a natural gasoline plant on its property in the Humble field, Harris County, and will probably make a decision in regard to the matter by the end of this week. The plant, if built, will be probably the first to be installed in the Gulf Coast region. Since it would be an innovation for the Coastal country, South Texas Petroleum Company is deliberating carefully in regard to it, studying the results obtained by other companies in districts where gasoline plants have been thoroughly tried out.

It is believed that the present production of the South Texas Petroleum Company at Humble justifies the construction of the proposed plant. It has five wells producing oil and gas from the recently discovered deep sands in the southeast part of the field—the sands which give up the gas that would be put through the proposed plant. In addition the company has considerable proved but undrilled acreage and is operating three rigs in that part of the field.

Gasoline Content

The wells are making from 1,000,000 to 2,000,000 cubic feet of gas daily along with the oil, and the gasoline content of the gas is approximately one gallon per 1000 feet of gas. That is about the same percentage of gasoline which obtains in gas in the Mexia and Corsicana fields of East Central Texas, where gasoline plants are profitably operated.

South Texas Petroleum Company was the discoverer of the deep prolific oil and gas sands of the southeast side of the field, completing Morris 1 for 2500 barrels of 44 gravity pipe line oil daily from broken sands at 4700-5347 feet on January 4, 1929. Since then the company has completed four additional producers in the same sands on the Morris lease, and The Texas Company has also finished several producers in the immediate area, while several other companies are operating in the same part of the field, drilling to the horizon proved up by South Texas Petroleum Company.

One of the South Texas Petroleum Company producers, Morris 6, was completed during the past week. It came in for 600 barrels initial production, with approximately 800 feet of screen set at a total depth of 4908 feet. The same company's Burt 1 has reached 5850 feet, and on Tuesday of this week an effort was being made to set screen. Its Morris 7 was drilling gumbo at 525 feet, while Morris 8 was a derrick.

Several tests in the southeast part of the Humble field were in the process of completion early this week. The Texas Company's Landslide 262 was flowing 80 barrels daily from 5332 feet, although the well had not been completed, and preparations were being made to run liner. The Texas Company's Wheeler & Pickens 21 was bailing from 4298 feet, showing water and gas. The same company's Stevenson 40 was drilling sandy shale at 3583 feet; Landslide 265 was rigging up; Landslide 266 was a derrick, and C. O. & G. 29 was rigging up. Marland Production Company's Lee 1 came in last Friday flowing 800 barrels, but the next day was making mud with a spray of oil. Harvey Smith's Bailey 1 is drilling below 2900 feet. Humble Oil & Refining Company's Williams 1, 2000 feet west of the South Texas Petroleum Company group of wells on the Morris lease, will be drilled deeper; Glass 1 is drilling gumbo at 1117 feet, and Williams 2 is rigging up.

In the north part of Humble field, Sun Oil Company's River 47 is drilling shale at 5028 feet, and The Texas Company's Kochler 35 is drilling at 100 feet.

During the week ending July 6 the average daily production of Humble field was 5600 barrels, according to the American Petroleum Institute estimate.

Refugio's Oil Output Up to 4000 Barrels

Houston.—With 17 producing oil wells, Refugio field has an average daily output of approximately 4000 barrels, the production coming from wells on three sides of the field, the south, north and east. The latest completion was Houston Gulf Gas Company's Ryals 4 on the east side of the field. It came in the latter part of last week, flowing 300 barrels daily through tubing and pinched down with two chokes. Depth of the hole is 3667 feet.

Houston Gulf Gas Company has five other operations at Refugio. J. A. Lambert 9 is drilling sandy shale at 2486 feet; T. P. Shelly 6 is drilling sand and shale at 4033 feet; Adkins 3 is in sandy shale at 3761 feet; Buckley 1 is drilling sandy shale at 2970 feet, and Rose Lambert 3 is drilling at 500 feet.

Mission Drilling Company, which, like the Houston Gulf Gas Company, is a subsidiary of United Gas Company, has four operations at Refugio. O'Brien 1 and J. F. B. Heard 1 are drilling shale at 3367 and 3937 feet, respectively; Shelly 1 is resetting screen at 3642 feet, and Powers 2 is rigging up.

Houston Oil Company's Pratt-Hewitt-Rooke 6 has drilled plug at 3689 feet,—total depth 3708 feet; Wilson Heard 6 is plugging back from 3692 feet to sidetrack; Rooke 12 is drilling gumbo at 550 feet, and Fannie Heard 12 is preparing to set casing at 3656 feet.

Saxet Oil Company's Claud Heard 5 is setting screen at 5044 feet; Claude Heard 8 is fishing at 3360 feet, and Fox 1 is rigging up. Benedum & Trees' Clint Heard 4 is being put on gas lift at 3695 feet, since it will not flow. Texas Gas Company's Rogers 1 is a derrick. Oigufer Oil Company's Ryals 2 is drilling gumbo at 550 feet. Coast Drilling Company's City 1 is a derrick.

Sun Completes Well in Clay Creek Field

Houston.—Sun Oil Company, discoverer of the Clay Creek field, Washington County, and the sole operator there, has completed Caraway 2 in that area as a 50-barrel well at 1359 feet. Another test, G. F. Grote 7, has an oil sand at 1110 feet, and casing has been set in it at 937 feet. Sun Oil Company also is drilling two other tests at Clay Creek. Hunt 1 is drilling shale at 1500 feet, and Hunt 2 is drilling sand at 618 feet. Production at Clay Creek is around 2500 barrels daily.

South Liberty Well Is Flowing 1256 Barrels

Houston.—The Texas Company's Green 5 in the extreme north end of South Liberty field came in last Friday, flowing at the rate of 1100 barrels daily of 40.3 gravity oil. Early this week, however, it had increased to 1256 barrels daily. Depth of the hole is 3213 feet. Green 5 came in originally about six weeks ago, but due to flood waters it was not completed.

The Texas Company's Pickett 3, also located in the north end of South Liberty field, is washing to bottom, bottom of the hole being at 5174 feet. The same company's Staiti 21 in the shallow area of South Liberty has been abandoned in salt at 1363 feet.

Another completion during the past week at South Liberty was Sun Oil Company's Mitchell 41 which was drilled deeper and abandoned in salt at 2250 feet.

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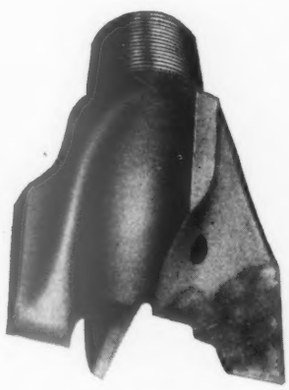

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Sulphur Dome is Scene of Five Operations

Houston.—Sulphur dome, Calcasieu Parish, Louisiana, which is being exploited for oil solely by the Union Sulphur Company, fee owner of the land there, is the scene of five operations. Fee 736 is fishing at 6065 feet; Fee 746 is rigging up; Fee 747 is drilling lime and shale at 2200 feet; Fee 748 is drilling gumbo and lime at 3175 feet; and Fee 749 is drilling rock at 1780 feet.

Present production at Sulphur is around 1700 barrels daily. The dome was operated only for sulphur by the Union Sulphur Company for 30 years. It was not until 1927, after sulphur mining had been discontinued, that the first oil production was developed. By the end of 1928 the field had produced nearly 1,000,000 barrels of oil.

Two Deep Tests Active In Calcasieu Parish

Houston.—Gulf Refining Company of Louisiana is drilling more than a mile deep in two tests at Starks Dome, Calcasieu Parish, Louisiana. Lutcher-Moore 15 on the north side of the dome is drilling shale at 5765 feet, and Industrial Lumber Company 13, located on the west side of the dome, is drilling shale at 6375 feet.

About 3½ miles south of Starks Dome Wilfred Lahay is drilling a wildcat, James 2. It is in gumbo at 3380 feet.

Damon Mound

Houston.—There are now three drilling operations at Damon Mound, Brazoria County. Sinclair Oil & Gas Company's Norton 6, total depth of which is 4168 feet, is washing to bottom. L. & M. Production Company's Wisdom 4 is drilling gumbo and lime at 2990 feet. Cullen & West's Smith 1 is drilling shale and lime at 2595 feet.

Daily production of Damon Mound is around 600 barrels, according to the latest estimate of the American Petroleum Institute.

Showings at Lost Lake

Houston.—After having been shut down for about six weeks on account of flood waters, the two tests of Pure Oil Company at Lost Lake, Mayes 2 and Mayes 3, are again active, and important showings have been reported in each. Mayes 2 is down to 2060 feet in sand with a slight show of oil, and Mayes 3 has oil and gas showings at 2025 feet.

Salt Flat Output Down Despite Five New Wells

Houston.—During the past week there were only five completions in Salt Flat field, all being Humble Oil & Refining Company producers, and the average daily production of the field during the week ending July 6 was 47,900 barrels, as against 50,200 barrels daily for the preceding week, and 52,000 barrels for the week before that. The latter figure, 52,000 barrels, was the peak daily average for a week for the field.

Wells completed during the past week by Humble Oil & Refining Company at Salt Flat were as follows: Briscoe 4-A, 200 barrels at 2701 feet; M. Briscoe 2-B, 150 barrels at 2689 feet; M. B. Johnson 3-B, 150 barrels at 2693 feet; J. L. Northcut 4-A, 150 barrels at 2704 feet, and Clyant Smith 2-A, 300 barrels at 2712 feet.

Heavy Gas Flow Found In Terrebonne Parish

Houston.—The Texas Company tested gas in Lake Pelto B-1 in Section 8-23s-18e, Terrebonne Parish, during the past week. The bottom of the hole is at 1268 feet. Estimated capacity of the well was 65 million feet daily. It is planned, however, to mud off the gas sand and to drill deeper. This is the first test on a dome found by seismograph in Terrebonne Parish.

In Timbalier Bay A-1, the first test on a seismograph-discovered dome in Section 19-23s-20e, The Texas Company tested salt water at 2365 feet, pulled screen and is drilling deeper.

The Texas Company is still drilling cap rock at 730 feet in Four Isle Bayou B-1, another Terrebonne Parish Dome. The cap rock was topped at 560 feet.

East Hackberry

Houston. — Production having been boosted a little over a week ago through the completion of two producers by the Calcasieu Oil Company, East Hackberry, Louisiana, during the week ending July 6, had an average daily production of 2950 barrels, as against 2000 barrels daily for the previous week.

Following completion of the two wells mentioned above, the Calcasieu Oil Company has made locations for three new tests: Doiron 7 and Watkins 15, along the west side of the dome and Lemke 2, toward the east.

Oil Officials Survey Fields By Airplane

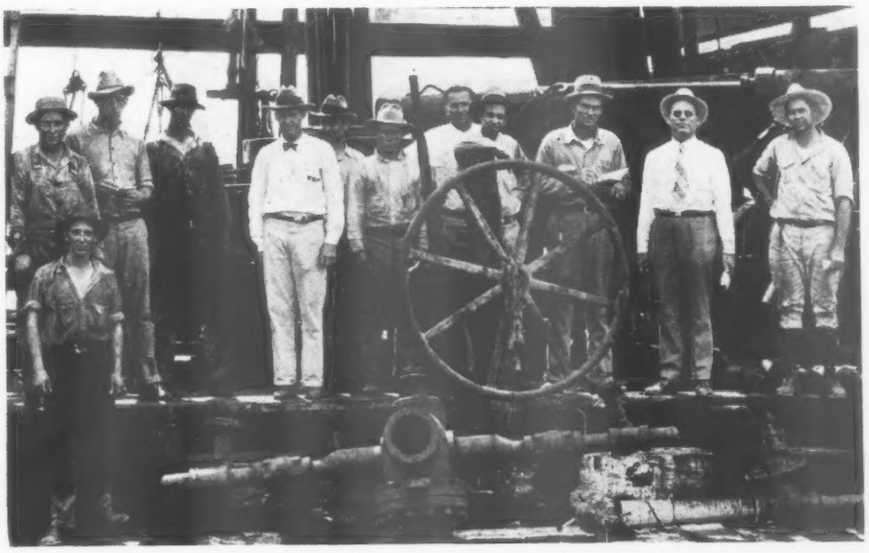
At the conclusion of the two-day session of the American Petroleum Institute, National Executive Committee, which was held at the Los Angeles Biltmore, June 26 and 27, a survey of the Southern California oil fields was made by airplane. Wayne A. Howard, testing engineer of General Petroleum Corporation, B. H. Robinson, of the production department of General Petroleum Corporation, T. M. Lowry, of the production department of the Standard Oil Company of California, and C. N. Beyrle, of the production department of the Standard Oil Company of California, were the guests of Joseph Kreutzer, touring the fields in a new production Kreutzer tri-motor air coach.

In addition to the Kreutzer air coach the ships of the Richfield Oil Company, Axelson Machine Company, Emsco Derrick & Equipment Company, Rio Grande Oil Company, Union Oil Company and General Petroleum Corporation, were pressed into service for the survey.

This, according to Mr. Kreutzer, is one of the most graphic illustrations of the position which aircraft have come to occupy in the oil industry. The fact that the use of airplanes enabled the group to cover the Southern California fields within a 100 mile radius within three hours, together with the fact that practically all of the larger producing companies have their own air fleet, the executive pointed out as an illustration of his point.

ENGINEERS TAKE FLIGHT

With the Men in the Field

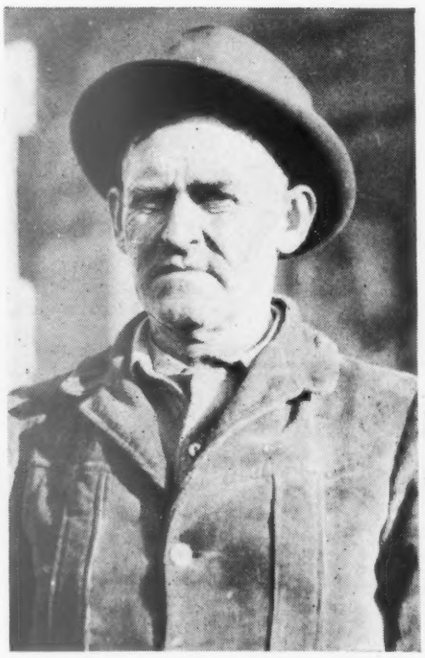


Vacuum Oil Company's safety committee works at safety almost entirely from the practical end. The committee is shown here making one of its monthly inspection tours of Lockport field, near Lake Charles, Louisiana. Note the booklets in the hand of several of the members. Notes are made on different items of safety picked up on inspection trips, and interesting angles providing safety for field men are discussed during and following such trips. Vacuum Oil Company's producing properties in Lockport field represent some of the most safety properties in the country, in the face of the fact that far more natural hazards are encountered there in early development than in the average field by virtue of the swampy conditions, high gas pressure and other adverse conditions common in South Louisiana.

Reading from left to right, standing on derrick floor; are:

E. C. Quinn, fireman; Frank Dunn, truck driver; A. Broussard, derrickman; P. J. Comeau, Gulf Refining Company representative; Lou McKellar, Warehouse department; Richard McGuire, construction department; O. H. Eichelberger, general field superintendent; T. H. Salter, driller; W. D. Rollins, driller; W. C. Thomas, manager production and drilling; D. C. Marler, air front of derrick: W. L. Viator, transdepartment. Standing on platform in portation department.

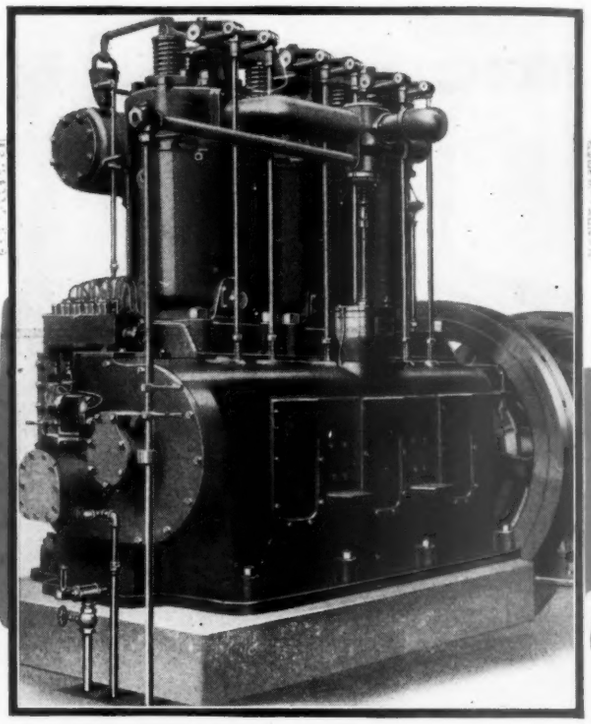
A. S. Field, superintendent of production for Shell Petroleum Corporation in Winkler County, Texas, was elected chairman of the Texas-Louisiana-Arkansas district of the Division of Development and Production Engineering, American Petroleum Institute at the Dallas meeting April 3-4. Field has been widely complimented by engineers and production men over the country for his valuable work in efficiency in producing, developing of clean properties and contribution to safety since entering West Texas.



Bob James, an oldtimer in Mid-Continent fields, whose bit-dressing jobs have made many producing wells over the country. He dressed tools on the Indian Territory Illuminating Oil Company-Foster Petroleum Company's Oklahoma City 1 discovery well, Section 24-11-3w, Oklahoma County.

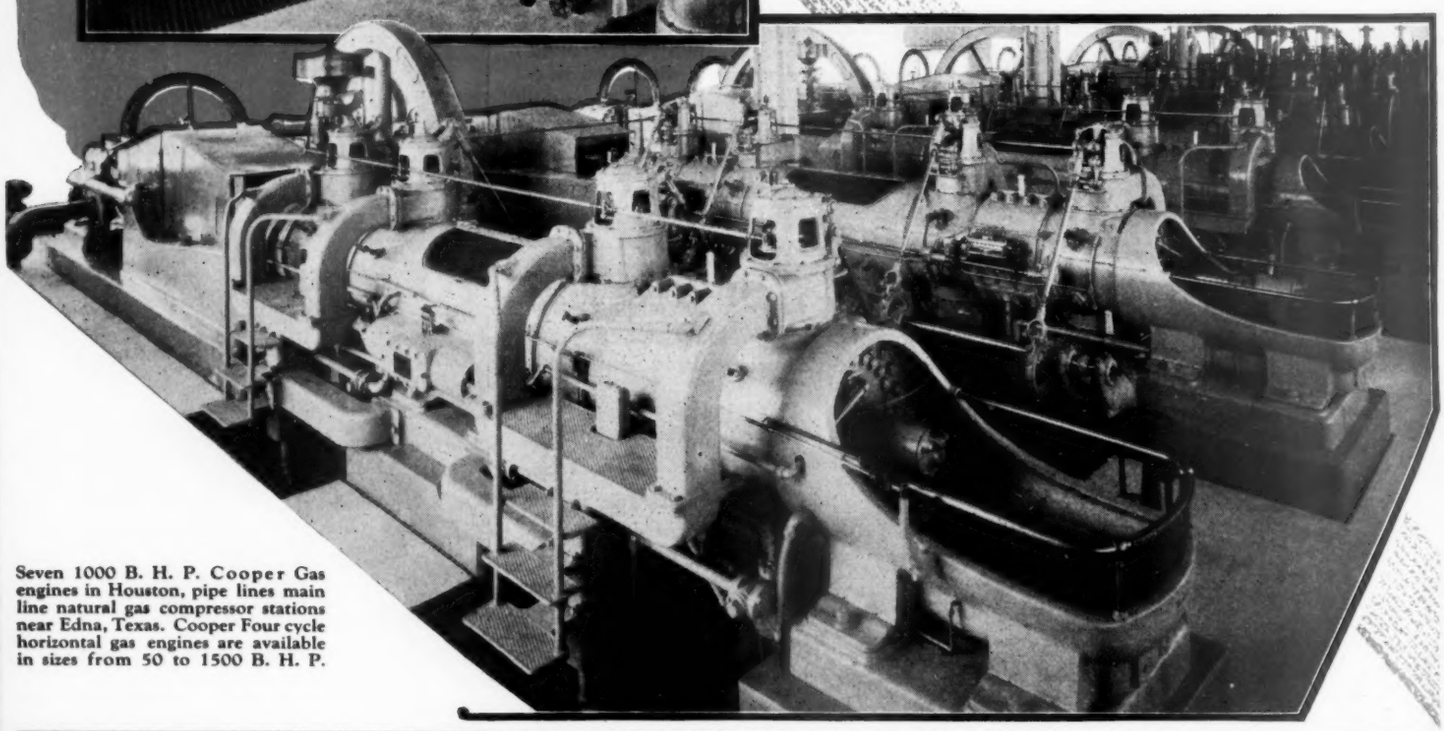
John Lowry, one of the best known figures in the Oklahoma City field, which late in 1928 served as the leading upset of the geological "dope bucket" during the year. Believe it or not, he's a farm boss for Indian Territory Illuminating Oil Company, and not an actor on location to pick up a ragtown scene for the movies.

A TRIPLE



Eighteen Bessemer Type-10 two cycle gas engines in one of Carter Oil Company's gasoline plants in the Seminole field. Bessemer two and four cycle engines are built for every oil and gas field service in sizes from 12½ to 200 H. P.

A Hope 200 H. P. three cylinder vertical gas engine driving an alternating current generator in oil field service. Hope vertical engines are now built in sizes from 80 to 540 H. P. by the Cooper-Bessemer Corporation for every power service.



Seven 1000 B. H. P. Cooper Gas engines in Houston, pipe lines main line natural gas compressor stations near Edna, Texas. Cooper Four cycle horizontal gas engines are available in sizes from 50 to 1500 B. H. P.

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Ninety-six years ago two Cooper brothers built their first horse-sweep for driving the Cooper cupola at Mt. Vernon. Then came throttling steam engines, locomotives, farm engines, Corliss engines. The first Cooper 4-cycle horizontal gas engine entered compressor service in West Virginia. It is still in constant service, and Cooper has become the leader in furnishing power requirements for the transmission of natural gas through pipe lines. Cooper engines are also in service in refineries, in gasoline plants and in electric plants. In addition, Cooper has been building Diesels.

Thirty years ago the first Bessemer oil field engine entered service in Pennsylvania. Since then Bessemer has been the leading builder of 2-cycle horizontal gas engines for drilling, pumping, pressure work, pipeline pumping, gasoline plants, booster stations, and for power service in refineries. In addition, Bessemer has been an outstanding builder of Diesel oil engines.

Twenty-nine years ago the first Hope 4-cycle vertical gas engine was installed. Twenty-eight years later the Hope was acquired and still further improved by Cooper. Each succeeding year has added to the high prestige of this engine for auxiliary power in main line and booster stations — in gasoline recovery plants — for power and lighting plants — in divers industries.

With these three lines combined and standardized, you can now get a Cooper, a Bessemer or a Hope that meets your conditions exactly.

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BESSEMER

News From Rocky Mountain Fields

Oil Discovery Probable Bear's Den Structure

Great Falls, Montana.—The most interesting and important development in Montana oil circles last week was the discovery of what appears to be a commercial amount of oil on the Bear's Den structure, Sweetgrass Hills, in the joint test drilled by the Sunburst Oil & Refining Company, and the Bear's Den Oil Company. The well has 700 feet of oil standing in it which is not lowered by repeated bailings. This location is near the Canadian line and has been long considered most favorable for oil production; it had previously been proved for gas.

Six-Shooter Test

Billings, Montana.—Carter Oil Company is moving in to its location for a test of the wildcat Six-Shooter anticline, northeast of here. This well will afford considerable interest to the fraternity inasmuch as it is the first one to be drilled on this structure in several years. It is to be a deep test.

Montana Leases

Great Falls, Montana.—State board of land commissioners granted oil and gas prospector's leases in 10 Montana counties last week. This is the largest number of leases granted by the state board for several months, and more than 7000 acres of land are involved.

Black Horse Lake

Great Falls, Montana.—The United States Petroleum Company has announced that it will immediately drill two more tests on its holdings on the Black Horse Lake structure. The discovery well has not been tested yet; it is reaming to set 5-3/16-inch casing at 1150 feet in the top of the lime break in which the oil showing was encountered. At present the well has 200 feet of open hole.

Cat Creek Test

Winnett, Montana.—A test in the old Cat Creek field, located near the discovery well, is to be drilled immediately by L. R. Carroll, who has long been identified with the development in the Cat Creek area. The field has shown a gradual decline in production, but the operator and Charles T. Lupton, Denver geologist, believe that the new test is on the "high" of the River Dome and that it will have an interesting outcome.

First Pennsylvanian Well on Rattlesnake

Farmington, New Mexico.—Continental Oil Company has temporarily completed its No. 17 Rattlesnake on the Rattlesnake structure in San Juan County at 6774 feet. The well is producing about 1200 barrels of water and 750 barrels of high grade crude. This is the first well in the field to have been drilled to the Pennsylvanian, and the discovery of commercial production is considered most important. Major operators holding offset acreage will of necessity drill offset tests this summer it is believed.

Map of Big Sand Draw Gas Field, Wyoming

A new structural map of the Big Sand Draw gas field, Wyoming, and adjacent lands, has just been made available for distribution by the Geological Survey, Department of the Interior, in furtherance of its work of classifying the public lands with special reference to the requirements of the mineral leasing laws. The map shows structural contours on top of the Frontier formation, the location of wells, roads, streams, fault lines, formation boundaries, and other features of interest. The area covered includes parts of Tps. 32 and 33n., R. 95w, sixth principal meridian. The field and office studies preliminary to the preparation of the map were in charge of C. E. Dobbin, geologist, who was assisted by G. H. Cronin, petroleum engineer. Information and assistance were given by the personnel of the Casper office of the Geological Survey, under the direction of J. W. Steele, supervisor, and by officials of oil companies interested in the area.

A few copies of the map are available at the offices of the Geological Survey in Washington, D. C., and at 508 Consolidated Royalty Building, Casper, Wyoming.

Cattle Protection

Santa Fe.—The state land department of New Mexico has ruled that hereafter all oil companies operating in the state will be required to build a fence around all oil wells and slush pits, as well as storage tanks, on state lands. This is for the protection of live stock. The action was requested by the executive board of the New Mexico Cattle and Horsegrowers Association.

Josey Sells Out To The Texas Corporation

Tulsa. — The Texas Corporation has purchased all of the stock of Josey Oil Company. Although the consideration was not announced, it is understood to have been about $2,000,000. Announcement of the sale came from E. R. Filley, manager of the Kansas-Oklahoma-Kentucky division of the Texas Corporation, and from R. A. Josey, president of the Josey Oil Company, Tulsa.

Negotiations for the acquisition of the Josey properties, all of which are in Oklahoma, have been under way for several months. Net oil production involved in the transaction was practically 2100 barrels daily.

Josey will continue in the oil business, still holding the Hemlock Oil Company and the Lilac Oil Company. Both of these companies hold large lease and royalty interests in the Mid-Continent.

Josey Oil Company was organized in 1817 by Josey, one of the most picturesque figures in Mid-Continent oil circles. Since its organization the company has operated largely in Oklahoma. It has a number of discoveries to its credit in Okfuskee, Okmulgee, Creek, Hughes, and adjacent counties.

Josey was in the oil business in the Gulf Coast area of Texas before coming to the Mid-Continent, having entered the oil business at Beaumont, Texas, in 1901.

U. S. Will Build Helium Plant Near Amarillo

Tulsa.—"The coldest spot in the world" will be located eight miles west of Amarillo, Texas, when the United States Bureau of Mines completes the new government plant that will recover helium from the natural gas of the Amarillo field by cooling it to a temperature of 300 degrees below zero. The helium gas will be used to supply the navy's giant dirigibles with this desirable gas.

At a temperature of 300 degrees below zero all of the constituents of natural gas, except the helium, are liquefied, permitting it to be drawn off as gas and leaving the residue as liquid.

In comparison, such temperatures are not found at the North Pole. If an icicle were thrust into the liquefied gasses of the laboratory it would produce the same effect as obtained when a red hot poker or iron is placed in water.

Deep Cement Test

Tulsa.—Wirt Franklin Petroleum Corporation is giving the Cement field of Caddo County a deep test for oil. Vann 1, SW NW NW Section 4-5n-9w, is drilling at 5517 feet in blue shale and gray sand.

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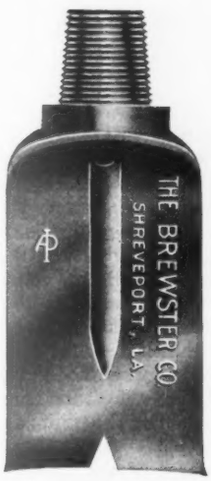
A. P. I. Tool Joint



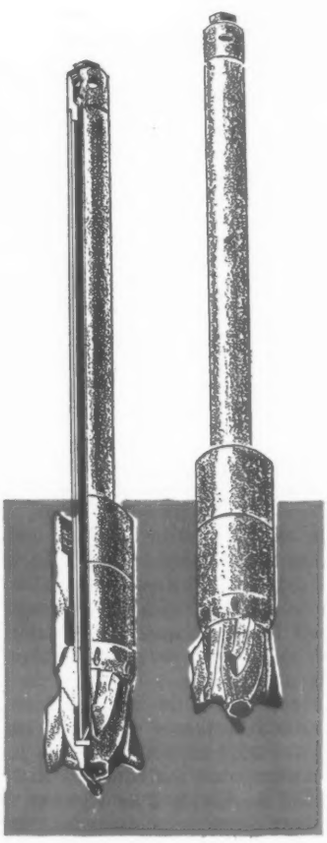
A. P. I. Fish Tail Bit

A. P. I. Gumbo Bit

Herbert Spencer said:

"There is a principle which is a bar against all information and which will keep a man in everlasting ignorance: that principle is contempt prior to investigation."

If we're right—you're wrong in not trying it. If we're wrong—you're right in not using it.



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Louisiana-Arkansas Field Notes

Dixie Field Extended East and West by Flowing Wells

SHREVEPORT.—Extension of Dixie field in Caddo Parish, east and west, by two flowing wells was the feature of development in this territory last week. Dixie field, which in reality is a three-mile southeast extension of the Woodbine horizon of Pine Island, continues to be the most active oil district in the North Louisiana, South Arkansas and East Texas areas. Nine new locations were made immediately after the field was extended. This brings the total number of locations and drilling operations in this district to 28.

Half a mile east of the discovery well of the new area, Sam Gold and associates started the week off by completing Hunter Estate 1, SW NE Section 17-19-14, which flowed 45 barrels an hour. The first 24-hour gauge, however, showed the well had settled down to 691 barrels daily. The latest gauge was 592 barrels of oil and 15 per cent. fresh water, the latter caused by faulty casing. Total depth was 2415 feet. The oil is 41.9 gravity, the same as in other wells in the new field. After coring shale with streaks of oil sand from 2400 to 2407 feet, Gold set a string of 6⅝-inch casing at 2383 feet. This well is about 200 yards south of Ohio Oil Company's Hunter Estate 1, in the same section, which was completed as a pumper making 80 barrels from total depth of 2414 feet.

On the west side of the field, Gulf Refining Company's Pope Oden 4, SW NE Section 18-19-14, after threatening to blow out, began to flow steadily at the rate of over 45 barrels an hour, producing 1018 barrels for the first 24 hours. This production was encountered after coring blue shale with a broken oil sand from 2400 to 2406 feet. This well is an 800-foot southwestern offset to the Gulf Refining Company's Pope Oden 1, completed in the extreme northeast corner of this section as a 3200-barrel flowing well, the best producer in this field It was this well which later went "dead" and was revived on the beam. Its latest 24-hour gauge was 196 barrels. The new producer is diagonally across the quarter from Pope Oden 1.

Meanwhile Gulf Refining Company apparently has completed only a small pumper in Pope Oden 3, NW NE Section 18-19-14, which bailed 19 barrels in 24 hours from 2411 feet. This is a direct western offset to Pope Oden 1 of the Gulf Refining Company.

Northwest Extension Unlikely

Early indications appear to condemn any extension of the field northwest. Directly north of Pope Oden 1, Standard Oil Company of Louisiana, several weeks ago tested salt water in Henderson 1, SEc Section 7-19-14, and during the last week Henderson 2, directly north of Gulf Refining Company's Pope Oden 3, but over in Section 7-19-14, is standing with 1000 feet of fluid in the hole 50 per cent. salt water, with total depth of 2407 feet.

New locations announced during the week in Dixie field are: Gulf Refining Company's Hunter Estate 1 and 2, SE NE and SW NE 17-19-14; Pope Oden 5, NW NE 1819-14; Sam Gold and associates' Hunter Estate 2, SW NE 17-19-14; Standard Oil Company of Louisiana's W. K. Henderson 3, Section 7-19-14; Hunter Estate 6 and 7, Section 17-19-14; Oden 3, 18-19-14, and Fred McWilliams' Pope Oden 1, Section 20-19-14.

South of the producing area D. C. R. Oil Company is awaiting for six-inch casing to set in Oden 1, Section 20-19-14, at 2402 feet. Lide and Davidson are still rigging up for Oden 1, Section 21-19-14; Walter Ray and associates are drilling sand rock at 1925 feet in Hunter Estate 1, Section 8-19-14; Palmer Corporation's Hunter Estate 1, Section 8-19-14, is waiting for six-inch casing to set with total depth of 2401 feet. Ohio Oil Company has spudded in and is drilling at 260 feet in Hunter Estate 2, Section 17-19-14. Standard Oil Company of Louisiana has derrick up for Hunter Estate 3, Section 17-19-14, and is arranging to pump Hunter Estate 5 in the same section, with total depth of 2411 feet. Standard Oil Company of Louisiana bailed dry in Pope Oden 2, Section 18-19-14, at 2419 feet, and is arranging to drill deeper.

Other Dixie field operations are either just ready to spud, are rigging up or are derricks or locations.

While interest is centered in Dixie, three deep tests in this territory are making progress. Dixie Oil Company is bailing to test Robertshaw 92, Section 13-21-15, Pine Island, Caddo Parish, at 6208 feet. While this had been the deepest test in the entire Shreveport area, Magnolia Petroleum Company's McCook and Hibbler 1, Section 22-21-10, Cotton Valley, Webster Parish, has passed it in depth during the week and is coring red sandy shale at 6257 feet. The other deep test, Gulf Refining Company's Caraway 1, Patterson Survey, Shelby County, East Texas, has total depth of 5112 feet. During the week the company set a string of 6⅝-inch casing at 5030 feet.

With the exception of re-completion of Gulf Refining Company's Gaddy 2, Section 30-17-14, in the old El Dorado east field of Union County, Arkansas, two miles southwest of Champagnolle production, Arkansas marked time during the week. Gulf Refining Company, after drilling to 3691 feet in this hole and getting into a grey sand, plugged back and bailed dry at 2853 feet. About 30 feet above this latter depth they brought in the well for the second time making 18 million cubic feet of gas and about 15 barrels of salt water. This is the level of the upper sand in Champagnolle and about 700 feet below production in the old El Dorado east field. It was in this same horizon that the company had first completed the Gaddy 2 as a gasser.

The only other completions in Arkansas during the week were two wildcats which were added to the failure list. In Ashley County, Atlantic Oil Producing Company's Bledsoe 1, Section 20-15-7, was abandoned as a dry hole at 3058 feet. A similar fate met Dr. Bush and associates' Jones 1, Section 5-17-18, Columbia County, which was abandoned at 3302 feet.

Champagnolle proper was quiet during the week. Dr. Rushing is coring Lynn 1, Section 7-17-13, in the southeast extension, at 3206 feet, after testing 14 fourbles of salt water through drill stem from 3092 to 3134 feet. Bailey and Trimble still have drill stem stuck at 768 feet in El Dorado Realty 1, in the same section. O. W. Estes' Ramsey 1, Section 24-17-14,

XUM

is still a derrick, as is Root Refining Company's Oliver 1, Section 18-17-13. Gann and associates have derrick pattern for Schmidt 1, Section 15-17-14. The same operators set liner with packer to test a sand from 2854 to 2864 feet, tested a hole full of salt water and are trying to pull liner in Warren 1, Section 10-17-14. Pure Oil Company is arranging to pump W. E. Gregory Estate 1, Section 15-17-14, after cementing to 3131 feet and perforating at 3007-3009 feet. Oil Well Corporation is arranging to deepen Perdue E-2, Section 9-17-14, after testing salt water in a drill stem test from 2742 to 2772 feet. Rovenger Oil Company is drilling at 1700 feet in Perdue B-3, Section 9-17-14.

Mount Holly Test

McDonald Brothers started Saturday bailing Wilson B-2, Section 25-15-18, Ouachita County, Arkansas. This is the first test made in Mount Holly since a series of failures following completion of three producers there, all of which are in Section 25-15-18. Operators have five feet of sand in Wilson B-2 at 2781 feet. After bailing all day the well stood with 2000 feet of oil in the hole and a small amount of salt water at the bottom. The well made several small heads of oil while bailing was under way. The only other active test under way in Mount Holly is Charles McDonald's Wilson B-3, in the same section which is coring at 2760 feet.

Two wildcats in Union County, Arkansas, are being watched with interest. Johnston-Gummer Oil Company is drilling rock at 2880 feet in Cargile 1, Section 4-18-13, after testing two joints of salt water in a drill stem test from 2570 to 2588 feet. W. M. Coates, Trustee, is coring at 3769 feet after making a dry drill stem test of McDuffie 1, Section 32-19-16, at 3768 feet.

Two North Louisiana wildcats were listed as failures during last week. Magnolia Petroleum Company's Denman 1, Section 1-22-11, Webster Parish, on the south edge of the old Sarepta gas field, was abandoned as a salt water hole at 2719 feet, while a Union Parish wildcat, The Texas Company's F. M. Fuller 1, Section 9-21-2w, was abandoned in red shale at 3587 feet as a dry hole.

New drilling in Arkansas showed some revival during the week, six new locations having been announced. One was a wildcat and the others just outside proven territory in Champagnolle. Phillips Petroleum Company announced location for Freeman-Smith Lumber Company 1, SW NW Section 25-16-13, Calhoun County. South of Champagnolle and between two prongs of producing territory, O. W. Estes made location for Hargett 1, SW SE Section 13-17-14.

Besides the locations in Dixie field, Caddo Parish, there were 11 other locations in North Louisiana, eight of them in Monroe gas field of Ouachita, Morehouse and Union Parishes. One new location was made in East Texas, Marion County.

There were no oil wells completed in the territory outside Dixie during the week. New gas wells completed totaled six and failures totaled eight.

Interesting Test Earlsboro District

Tulsa.—The latest test to attract attention in Earlsboro district of Pottawatomie County, Oklahoma, is the community test of Twin State Oil Company, Mid-Continent Petroleum Corporation and Gypsy Oil Company, in the SE SW NE Section 22-9-5, 1½ miles south of Earlsboro field. The top of the Mayes lime was found at 3875 feet, and at 3935 feet the top of the Woodford shale was encountered. The eight-inch casing is being set at 3949 feet, where rotary tools will also be installed.

Although the test is not at sufficient depth yet to make reliable correlations, the fact that it is running considerably higher than other tests in the immediate district has caused much interest to be attached to it. Royalty prices in the region have jumped to $750 and $1000 per acre and some quotations are higher.

The community block on which the test is located is composed of 320 acres. Twin State Oil Company owns a half interest, while Mid-Continent Petroleum Corporation and Gypsy Oil Company each own a quarter interest in the block.

This is the third important new spot attracting attention right now along the edges of old Earlsboro field. The most important area is to the southeast in Section 18-9-6, where seven wells are producing 19,000 barrels daily, eight wells are drilling and 12 locations made.

On the north side of the Earlsboro townsite Empire Oil & Refining Company and Amerada Petroleum Corporation recently started a play when their tests on joint leases came as producers. Practically all of the city blocks have been leased and drilling permits have been issued by the city council.

Tulsa.—Smith & Kinsley of Oklahoma City are drilling at 465 feet in the SE NW Section 19-20-19e, Mayes County, eastern Oklahoma. Production is expected at less than 800 feet.

Standard Oil Dividends Record-Breaking

New York.—Cash dividend disbursements by the Standard Oil group of companies in the second quarter of 1929 have again established a new high record, according to a report issued by Carl H. Pforazheimer. This new high record, which aggregated $66,047,877, exceeds payments for the first quarter by approximately $3,000,000.

For the first half of the current year, cash dividends disbursed by the Standard Oil group will amount to $129,427,495, the highest amount ever paid out in any semi-annual period and larger than the dividends paid during the entire year of 1922. Following are the annual dividend payments from 1925 to 1929, with the total for the first half of this year:

1925	$153,506,099
1926	200,327,594
1927	213,617,940
1928	218,740,334
First half 1929	129,427,495

Gasoline Tax Rates Increasing

New York.—According to a report by the American Petroleum Institute, gasoline tax rates in more than half the states of the United States definitely have been placed in the "higher brackets" as a result of increases made during recent legislative sessions. Twenty-nine states now impose levies of four cents or more per gallon, while last year only 18 charged as much as four cents and 27 had taxes of three cents or less.

A survey made by the Institute, which estimates the total 1929 tax at $450,000,000, shows the scale of rates as of June 1, 1929, as follows:

Tax Rate	2	3	3½	4	5	6
States	Conn. D. of C. La. Mass. Mo. N. J. N. Y. R. I. Texas	Cal. Del. Ill.[1] Iowa Kans. Mich. Minn. N. D. Tenn. Wisc.	Utah	Ala. Ariz. Colo. Ga. Idaho Ind. Me. Md. Neb. Nev. N. H. Ohio Okla. Ore. Pa.[2] S. D. Vt. Wash. W. Va. Wyo.	Ark. Fla. Ky. Miss. Mont. N. M. N. C. Va.	S. C.
Number	9	10	1	20	8	1

[1]Effective August 1
[2]Effective July 1

SMACKOVER

Approximately 80 per cent of the crude that has been produced in Arkansas has come from the Smackover field. The discovery well was the Richardson 1, located in section 29-15-15, Ouachita County. It came in about August 1, 1922, having penetrated 18 feet into the oil sand to a total depth of 2066 feet.

E. W. SULLIVAN
Store Manager at Smackover

❖ ❖ ❖

The crude tested 22 degrees Baume. It was not until about three weeks later, however, that the well was completed as a steadily flowing well, at which time the initial production was given as 1000 barrels.

Smackover's peak production year was 1925, during which time the output was 74,383,000 barrels. In 1928 the field produced 24,747,000 barrels, and at the end of that year the grand total of production had reached 259,878,000 barrels.

FRICK-
SUPPLY CO
Pittsburgh, Pa.

Amazing Growth

THE man who drilled the first oil well did not expect the petroleum business to reach world proportions, any more than our founders expected the Frick-Reid Supply Corporation to spread from the Atlantic Coast to the Rocky Mountains.

But that first barrel of crude petroleum filled a definite need and that first Frick-Reid Store was built on a solid foundation.

Our amazing growth has not been a thing thrust upon a lukewarm industry, but the result of a demand as natural and insistent as sun and rain on the acorn in fertile soil.

Today any one of many Frick-Reid establishments would fulfill the early ambitions of our founders, and not for one moment do we forget the principles of service and integrity with which we started out.

J. P. RATIGAN

"Sure Grip" line of Pumping Equipment

JOS. REID GAS ENGINE COMPANY
Two and Four Cycle Gas Engines, Pumping Powers, Refinery Equipment

JOHN A. ROEBLING'S SONS COMPANY
Wire Line and Welding Wire

ROSSENDALE-REDDAWAY COMPANY
"Camel Hair" and Stitched Canvas Belting

WALWORTH COMPANY
Fittings and Valves for all Branches of the Oil Industry

WHITLOCK CORDAGE COMPANY
Manila Cordage, including Drilling Cables, Bull Ropes, Cat Lines, Etc.

AXELSON MACHINE COMPANY
Sucker Rods, Pull Rods, Working Barrels, etc.

BEAUMONT IRON WORKS COMPANY
Dreadnaught Rotary Drilling and Pumping Equipment

FRICK-REID SERVICE RUBBER BELTING
Our Own Specifications

DONOVAN BOILER WORKS
Oil Country Boilers and Tanks

JONES & LAUGHLIN STEEL CORP.
Tubular Goods, Seamless and Lapwelded

NATIONAL TRANSIT PUMP & MACHINE COMPANY
Pumps and Pipe Line Equipment

WILLIAM POWELL COMPANY
Valves for the Oil Industry

-R E I D

R P O R A T I O N

Tulsa, Oklahoma

Geophysical Instruments and Methods

(*Continued from page 32*)

Methods involving the use of low frequency alternating currents applied in a manner similar to that used for direct currents. (4) Methods involving the use of high frequency (500 to 1000 cycles) alternating current introduced into the earth's crust by induction. (5) Methods involving the use of low frequency radio waves.

The various factors used in the interpretation of structural conditions and obtained by these various methods are resistance of the soil, equipotential lines, current paths, and the direction of reflected waves. The great variety of troublesome factors also included in the data taken and due to other causes than structural conditions may be summed up in part as due to natural earth currents, the effect of water bearing strata which may or may not have enough mineral content as to seriously effect its resistivity, contact resistance at electrodes, conducting ore veins, insulating strata, etc.

Although no successes are officially credited to these electrical methods, it is not necessarily proved that they are impractical for oil structure work. Failures may be entirely due to a lack of sufficient refinement in apparatus, operating technique, and interpretation of data. It is to be hoped that further research along these lines will be carried out in order to definitely demonstrate their value in the location of oil structures or, what is preferable, oil bearing sands.

Seismic Methods

The seismograph proved its worth to the oil industry during the first few months after its introduction in the Gulf Coast regions. The application of the seismograph to the study of subsurface strata is based on the demonstrated fact that the velocity of propagation of a seismic wave varies with the physical properties of the transmitting medium. In general, the deeper layers have greater velocities. Since these seismic waves obey the laws of refraction, diffraction and reflection it is possible to record at the surface waves which originated from an explosion of dynamite and traveled to the recording stations through the underlying strata. The seismograph, as applied to the study of oil structures, not only records photographically the waves traversing the various strata, but by means of a very accurate timing system incorporated in the equipment it also measures the travel time of these various waves. From a study of these recorded waves and their time of arrival and the travel distance on the surface, the geophysicist is able to make certain estimates as to the character, depth and slope of the underlying strata. Structural conditions may not only be recognized, but may be contoured with reasonable accuracy. It then remains for the geologist to interpret the data of the geophysicist relative to the possible location of oil bearing sands on the crest or slopes of the structure.

There are two distinct methods of application of the seismic waves to the study of sub-surface conditions. These methods are termed refraction and reflection methods. The first method utilizes those seismic waves which are refracted at the boundary between two sub-surface strata and, after travelling some distance along the upper part of the deeper strata, are diffracted and return to the surface where they may be recorded.. This method offers a very rapid means of covering ground and is particularly effective in locating salt domes in the Gulf Coast. It is particularly valuable for use in difficultly accessable areas such as the swamps of Southeast Louisiana. The reflection method utilizes those waves which, traveling downward, strike the deeper strata at an angle greater than the critical angle necessary for the phenomena of refraction, and are reflected and return to the surface where they may be recorded. A special design of recording equipment is necessary to record these reflected waves so they may be distinguished from the slowest refracted waves which have a disturbing affinity for the reflected waves. The successful application of the reflection method is dependent on the proper design of apparatus to a much greater extent than the refraction method.

Refraction Method

In the Gulf Coast, the refraction method, when properly used will, give definite indications of the presence or non-presence of a salt dome within the greater part of the total distance from the shot point to the recorder. In exploring for deep seated salt domes the distances usually employed are of the order of magnitude of six miles. Using three recording instruments, spaced on the circumference of a rough circle about three quarters of a mile apart, it is readily understood that a considerable acreage is explored by each shot. Similar methods will prove effective in locating large structures under favorable conditions. Slopes of strata as well as depths are determined by a different method of shooting. In such work the recording stations are placed on a line with the shot point. From the interval velocities between the various stations, computations of depths and slopes may be made. In exploring for small structures, it is frequently necessary to resort to line shooting. This method is also applicable to fault work.

While the refraction method should prove practical in profiling the top of the Big Lime in West Texas, is has not been used to any great extent in this region.

In reflection shooting, the final data obtained by the geophysicist is the depth to one or more of the deeper strata at a particular point. By making such depth determinations at suitable points, a profile of the sub-surface strata which are overlaid by other strata is obtained. This work is necessarily somewhat more expensive than the refraction method as applied in the Gulf Coast. It has the advantage, however, of working certain strata which are overlaid by other strata having a higher velocity of wave propagation. Such a condition presents considerable difficulty to the application of the refraction method, necessitating analysis of data obtained by reading later events on the records. Reflection work is entirely based on later events, but due to the design of the apparatus and the technique of applying the method, this is rendered less difficult than in refraction work.

Reflection methods are being used to a considerable extent in North and West Texas and in Oklahoma. No data is available regarding the results of this work.

Some idea of the sensitiveness of practical field seismograph equipment may be obtained from the following data. In order to record the infinitestimal earth movement caused by the distant explosion, so as to give a deflection on the record of approximately one quarter inch, a magnification, by either mechanical or electrical means, of from 1,000 to 50,000 times is required. In refraction reconnaissance work, time intervals are measured to within one one-hundredth part of a second, while in profile work and in reflection work it is preferable to measure time intervals to about one one-thousandth part of a second. This is the equivalent in delicacy and sensitivity to the best of the modern radio broadcast receivers.

The average seismograph party engaged in refraction shooting in the Gulf Coast is composed of a crew of from 15 to 20 men and from 7 to 10 automobiles. They will shoot from four to 20 shots per day and consume from 500 to 3500 pounds of dynamite per day. The acreage covered in one day will vary up to as much as 15,000 acres. The average cost per acre will vary from four to 20 cents. A seismograph party engaged in reflection work will usually be composed of a somewhat smaller crew and fewer automobiles. The dynamite consumed will be considerably less but the acreage explored will also be smaller. Reflection costs are usually expressed in cost per depth rather than cost per acre. An average of three depths may ordinarily be determined in a working day and at a cost of about $75 each. In reconnaissance work one depth is usually determined in each square mile. This figure varies of course and is dependent on the geologic conditions existing in the areas worked.

No data on the application of the seismograph in West Texas, Oklahoma and

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Steel Tankage
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Steel Derricks
Rig Irons
Bull Wheels
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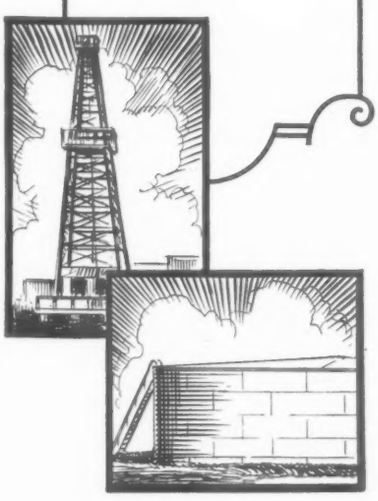
Crown Blocks
Tug Wheels
Sprocket Wheels
Sand Reels
Refinery Equipment
Stills
Steel Plate Construction



THE KIRK-MORROW IRON WORKS COMPANY

Formed to take over the Iola, Kansas, plant of the United Iron Works, Inc.

We are pleased to announce to our friends and to the friends of United Iron Works oil field products, that we have formed the Kirk-Morrow Iron Works Company and have taken over the Iola plant of the United Iron Works. Inc.

As is well known, the Iola plant has been United's "oil industry equipment" plant, this plant having in the past few years totalled a volume of oil field sales of approximately $3,000,000 per year. The new company will engage exclusively in the manufacture of oil field equipment, specializing in the types of equipment that have been formerly produced and in steel derricks.

In taking over the Iola plant, we have also taken over the oil industry warehouses and the entire manufacturing, sales, field and warehouse personnel which has been serving this plant.

Plant and general offices will remain in Iola. Three sales offices, twenty-two warehouse branches, and a large field personnel will enable us to offer the industry a highly efficient service in the Mid-Continent and Rocky Mountain fields.

J. B. KIRK
D. C. MORROW

PERSONNEL OF THE KIRK-MORROW IRON WORKS COMPANY

J. B. Kirk, A. S. M. E., President of the new organization, has operated for many years in Kansas oil and gas fields and is widely known throughout the entire Mid-Continent field in both business and personal relations.

D. C. Morrow, Vice-President and General Manager, was for twenty-six years an official of the United Iron Works, Inc., being president of that company at the time of the formation of The Kirk-Morrow Iron Works Company. Mr. Morrow is in charge of the manufacturing and sales departments of the new company. He will have offices in both Iola, Kansas, and Tulsa, Oklahoma.

F. J. Bradford and V. H. Van Horn are in charge of sales of rig iron equipment. Mr. Bradford has had 25 years experience in the manufacture and sale of his specialty.

W. H. Dwyer and H. M. Rosevear are in charge of the sale and erection of tanks. Mr. Dwyer is in charge of the company's Dallas office. Mr. Rosevear is stationed in Tulsa.

THE KIRK-MORROW IRON WORKS COMPANY

General Offices: IOLA, KANSAS

Sales Offices: Hunt Bldg., TULSA, OKLA.; Magnolia Bldg., DALLAS, TEXAS; Brown Bldg., WICHITA, KANS.

WAREHOUSE BRANCHES:

KANSAS—Valley Center, El Dorado, McPherson. OKLAHOMA—Maud, Seminole, Sasakwa, Tulsa, Oklahoma City
TEXAS—Big Spring, Borger, Pampa, Panhandle, Pyote, Trent, Santa Rita
ARKANSAS—El Dorado, Smackover. WYOMING—Casper, Parco, Cody

CANADA: Okotoks, Alberta.

California is available. It is reported that brilliant results have been accomplished with the seismic method in Mexico and Venezuela. There is at least one seismograph party working in each of these countries. Valuable data on the Mexia-Balconnes fault zone has been obtained by means of the seismic method. It is applicable to the location of unknown faults as well as profiling known faults. It will perhaps perform better as a profile method than as a reconnoissance method in the case of faults. Aside from its very impressive record in the Gulf Coastal regions of Louisiana and Texas, the seismograph has been found to lend valuable aid in work under the more complicated geologic conditions existing in East Texas and in the interior coastal plains.

Summary of the More Important Methods

The magnetometer is the most economical geophysical method for locating geologic structures. It has marked limitations but is applicable to surveys in a wide variety of geologic conditions. It is not particularly useful in the Gulf Coast.

The torsion balance has proved its worth under widely varying conditions. It is applicable to the location of salt domes in Texas and Louisiana and structural conditions in Texas, Oklahoma, Kansas, etc. It is widely used by European oil companies on their holdings in numerous foreign countries.

The electrical methods have yet to prove their worth in the search for oil or oil producing structures. They show some promise and offer a very interesting field for scientific research.

The seismic method is valuable in locating salt domes as well as structures. Small structures and faults require a different method of investigation from the larger structures or salt domes. The seismic method is practical in various foreign countries as well as in many localities in the United States. Most of the work with this instrument has been performed in the Gulf Coast. Its application to the search for structural conditions in other regions is still in its infancy. However, from the little data at hand, it seems to show very promising indications of success under a wide variety of conditions in this type of exploration.

A well equipped geophysical department should have the three major methods, and use them as checks against each other. Under such procedure, it seems unlikely that false indications of structure should be obtained by these three methods operating on entirely different principles. The magnetometer and torsion balance are used together in Oklahoma and in West Texas. The torsion balance and seismograph are frequently used to check each other in the Gulf Coast.

Results of Geophysical Explorations To Date

Both the magnetometer and torsion balance have mapped structural conditions in Oklahoma, Kansas and in Texas. No reports of drilling on these areas are at hand. However, from the results obtained with these instruments on known fields, there seems to be little likelihood that the structural conditions will not be found to exist as predicted by the geophysical surveys. Both the torsion balance and seismograph have proved very successful in the Gulf Coast. Logan, in THE OIL WEEKLY, issue of November 16, 1928, gives a list of the salt domes reported as discovered by geophysical instruments. Locations for the first wells on a large number of these dome prospects have either been made or are drilling. It is to be expected that considerable more data on these prospects will be available in the next few months.

There are three geophysically discovered domes that are outstanding in public interest. Sugarland dome was discovered by the torsion balance and checked by the seismograph. Out of the first 24 wells drilled, 23 have been completed as oil wells and the other as a gas well. Cap rock has not been struck as yet, and it is estimated to be over 4000 feet deep. The field is at present producing over 12,600 barrels daily from depths averaging 3600 feet. Port Barre dome, in Louisiana, was discovered and outlined by the seismograph. The first test drilled was recently brought in as a producer. East Hackberry and Sorrento domes, in Louisiana, were also discovered by the seismograph and production obtained shortly after the drilling campaign started.

Although the Raccoon Bend field, in Texas, was discovered by surface geology, indications of structure are readily recognizable from seismograph data. The Somerville field was also outlined from surface indications and checked with the seismograph. Structural conditions are reported as having been determined by the seismograph in Colorado County, near Columbus, Texas. It is quite possible that a new field may be developed in this area.

Most of the major producing companies are at the present time employing geophysical instruments to explore leases and suspicious areas in advance of drilling such prospects. Exact figures are not available, but it is estimated that there are more than 20 seismograph parties operating in the United States. There are perhaps about 75 torsion balances and over 100 magnetometers in active service in this country. European oil companies are using these methods to an even greater extent in their foreign work.

Future of Geophysical Explorations for Petroleum Structures

In spite of the large number of salt domes discovered in the past year there are probably many more to be found. Activities are increasing to a certain extent and it is quite likely that many more such structures will be located soon. The application of the seismograph to the search for structures other than salt domes is still in its infancy and will be developed as time goes on.

One important factor in the use of geophysical methods in locating new structures is in the saner methods of development which follow. As a rule, the company discovering the structure is able to lease it in its entirety before announcing the discovery. As a consequence, with little or no competition, development can be carried on in a more efficient manner than would be the case if several companies were competing for the production.

Although the cost of exploring territories by geophysical methods runs high when considered on a monthly basis, the cost per acre for reconnoissance work is relatively low. Even if it were as much as $1 per acre, consider the number of acres that could be explored at this excessive figure for the cost of drilling one wildcat well to a depth of 5000 feet. Then consider the small acreage which may be considered as tested by such a well and figure the proportional cost. Money spent in exploring large blocks will certainly pay better dividends than an equal amount spent in sinking wildcat wells in the same acreage.

The larger companies realize this fact and the smaller companies are beginning to realize it more every day. Those who cannot afford the expense of their own geophysical department are rapidly beginning to employ the various geophysical consulting companies who will explore any given acreage on a contract basis.

In conclusion it may be said that the entrance of geophysical instruments and methods into the petroleum industry has resulted in greater ecenomy in the search for new production and offers scientific means for locating new production as needed.

Texas Company Will Drill Deeper at Port Barre

Houston.—On the Port Barre dome, St. Landry Parish, Louisiana, both The Texas Company and Gulf Refining Company are preparing to drill deeper, following unsuccessful tests in prospective producing sands.

The Texas Company's Botney Bay Lumber Company Fee 2, the second test drilled by that company in the area, is cutting and pulling screen to deepen from 3619 feet. Two joints were set at that depth about two weeks ago and the well came in flowing about 100 barrels oil per hour, together with a large gas flow, but went dead in less than an hour.

Gulf Refining Company's Gaudet 1 tested salt water at 3828 feet about a week ago when two joints of screen were set.

This area was discovered by seismograph last year, and the first test drilled there, The Texas Company's Botney Bay Lumber Company Fee 1, came in about March 1, 1929, flowing 800 barrels of 23 gravity oil daily at 3763 feet. In a short time it quit producing. It was abandoned finally in salt, which it topped at 3935 feet.

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FRANKLIN VALVELESS OIL AND GAS ENGINES

Some of the Franklin OF Good Points

Enclosed type
Low Fuel consumption
100% inter-changeability
Simplicity

Piston rod is fitted with metallic packing which never needs adjusting or replacing

Every spring exposed.

Complete simplicity with practically no adjustment

In case of belt breakage engine automatically stops

Fuel pump driven by eccentric running in oil bath

Bearings are removable and reversible

Only standard threads used. No special wrenches required

Cylinder has 3 point, forced feed lubrication

Balance of lubrication is splash feed

Pistons are air cooled

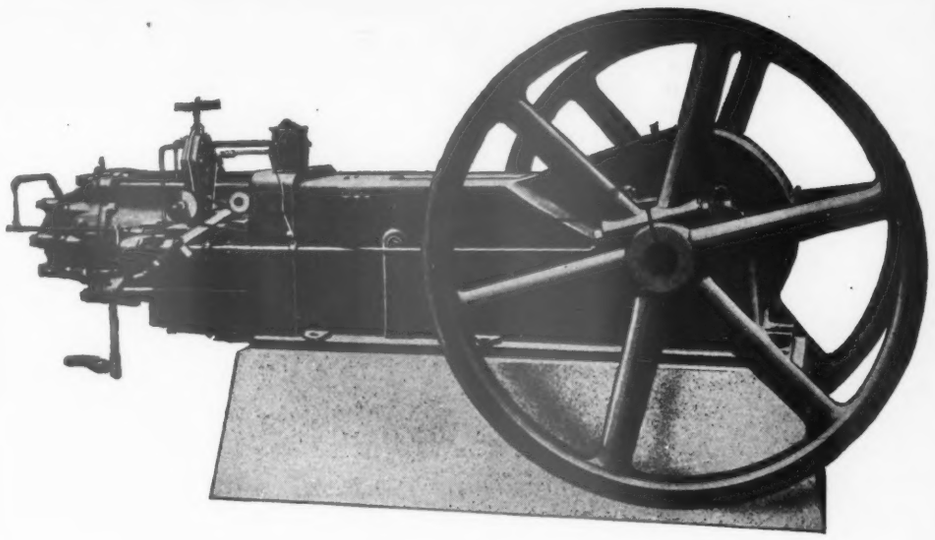
All nuts subject to vibration are castillated and fastened with cotter pins

Most economical to operate in fuel, lubricant, water and repairs

Easy to start.

Type BG Clutch for Cable Tool Drilling or Pumping

A vast improvement over the former type of clutches.
Driven from pulley on engine. Permits the use of a larger diameter pulley and makes possible a slower clutch speed. Operates by hand lever on derrick.
Construction and design prevent Reverse Clutch Troubles.
PRICE—$1200.00 F. O. B. Franklin, Penna.



Here Is Practical Standardization

The new and improved Franklin Oil Engine, identified as type OF is made in three sizes: 12 x 16 (30 HP) and 13 x 16 (40 HP) and 16 x 16 (80 HP) for drilling, pumping and power.

ALL FRANKLIN VALVELESS 16″ STROKE ENGINES ARE INTERCHANGEABLE ON THE SAME BLOCK

After drilling the well, the operator can install one of the lighter units upon removal of the drilling engine. It fits the same block perfectly.

It is to the operator's interest to see that his drilling contractors use the Franklin since by doing so the cost of a new engine base is eliminated.

Here is practical standardization in which the benefits are mutual.

Send for literature.

Franklin Valveless Engine Company
Franklin, Pa.

Prices

PRICES—12x16 Type OF Franklin, including water circulating pump and pulley. $1550 F. O. B. Franklin
13x16 Type OF Franklin, including water circulating pump and pulley. $2050 F. O. B. Franklin
16x16 Type OF Franklin, including water circulating pump, pulley and air starting equipment. $3200 F. O. B. Franklin
NOTE—Type OF is readily converted into type OG for gas fuelization

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OIL WELL SUPPLY COMPANY

Branches in All Oil Fields

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COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Prod. This Week	Initial Prod. Last Week
Arkansas	5	5	..	3	1	1	4	1	...	200
California	20	22	19	21	..	..	1	1	26,558	56,950
Illinois	3	..	3	..	..	..	..	..	54	...
Indiana	3	..	2	..	..	..	1	..	40	...
Kansas	33	10	19	5	..	1	14	4	13,725	1,970
Kentucky	30	30	20	20	4	1	6	9	1,718	699
Louisiana	12	14	2	5	4	7	6	2	771	2,531
Michigan	17	9	12	8	..	..	5	1	5,850	4,000
New York	..	6	..	6	..	..	..	..	...	14
New Mexico	5	..	4	..	..	..	1	..	2,845	...
Ohio	48	57	20	30	18	14	10	13	729	940
Oklahoma	71	48	21	26	14	6	36	16	9,165	7,008
Pennsylvania	5	49	2	45	3	4	..	..	13	171
Texas	123	160	88	75	9	11	56	74	24,400	27,722
West Virginia	16	23	9	8	6	12	1	3	113	157
Total	391	433	221	252	59	57	141	124	85,981	102,362
Increase this week	42	..	..	..	2	..	17	..	...	...
Decrease this week	..	..	31	..	..	..	..	..	16,381	...

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
BECKHAM COUNTY—		
Benedum and Trees, Rogers 1, sw, 30-8-25w	*	2305
CARTER COUNTY—		
Magnolia, Suitor 1, nw ne ne, 4-2s-3w	*	4605
Magnolia, Green 9, sw nw, 13-1s-4w	150	3108
CHEROKEE COUNTY—		
Shell, Willey 1, nw ne, 25-16-19e	*	617
COTTON COUNTY—		
Cullum and Perkins, Patterson 1, se ne ne, 4-2s-10w	*	2263
Heydrick et al, Bull 1, sw se, 3-1s-10w	*	2303
CREEK COUNTY—		
Hammon et al, Peeper 1a, ne nw, 10-16-10e	*	3015
J. E. Abbett et al, Petrascek 1, ne sw 12-19-9e	*	2736
C. G. Tibbens, Lucas 6, nw ne se 31-15-9e	5	2357
Blackwell, Tiger 11, ne se sw, 17-17-7e	60	2717
The Texas, Gooden 3, se sw se, 16-17-7e	15	2835
Magnolia, Dix 7, cel se se, 32-18-7e	10	2658
CUSTER COUNTY—		
Head and Amphlett 1, sw se, 10-12-17w	*	353
GRANT COUNTY—		
Consolidated Utilities, Conneil 1, nw, 24-28-3w	*	4862
Boucher et al, Nelson 1, sw se, 1-27-3w	*	4585
HASKELL COUNTY—		
Chas. Holden, Phillips 1, se, 3-9-18e	¶1/10	1700
HUGHES COUNTY—		
Paul Steckleburg, Sullivan 1, c ne ne, 11-9-10e	*	1210
Independent, and Kingwood, Scott 1, sw se se, 6-8-9e	¶11	3615
Independent, Gypsy, Marshall 1, ne sw, 7-8-9e	¶28	3569
Independent, Marshall 1, 7-8-9e	¶6	3581
JEFFERSON COUNTY—		
Roy Johnson et al, Sanders 1, se nw, 10-4s-8w	*	3007
KAY COUNTY—		
Industrial, Clift 1, se nw, 35-28-1w	¶¼	785
Royal, Fulton 1, c se ne, 12-28-1w	*	1040
LINCOLN COUNTY—		
Texas Pacific Coal & Oil, Seabo 1, nw, 19-16-5e	*	4600
MUSKOGEE COUNTY—		
W. J. Metzger, Francis 9, cwl se sw, 1-14-18e	*	985
R. E. Kimsey, Harrod 1, nw se se, 24-15-17e	*	2285
Cherokee Public Service, Grimmett 2, sw nw, 10-15-17e	*	1291
E. Price, Woodall 4, csl sw sw, 20-15-16e	*	1340
C. W. Betz Trustee, Friday 1a, cnl nw nw, 7-15-15e	*	1767
H. D. Johnson et al, Smith 1, se, 13-13-18e	¶1½	725
Mazda, Jackson 1a, ne se enw, 8-13-16e	75	1650
M. S. Musselman, McCullough 1, sw 34-14-19e	¶1	1484
OKFUSKEE COUNTY—		
Mid-Continent, McCoy 1, sw ne ne, 31-11-11e	¶24	3090
Misener and Kingwood, Robinson 2, se sw nw, 12-10-11e	25	1590
J. E. Wallace, Colbert 7, c sw ne, 14-14-14e	40	1072
J. M. Buzzard, Clarkson 1, nw se nw, 32-15-13e	¶3	2050
OKMULGEE COUNTY—		
A. H. Howard, Doyle 1a, cel w½ se sw 17-13-14e	*	650
Tiger Mountain, Tucker 4, csl ne se, 2-13-14e	*	2008
Kessler, Colbert 4, cnl nw nw, 16-14-14e	*	1285
Denton and Marshall, Jefferson 1, ne se sw, 25-15-14e	*	1615
J. M. Scott & Shaffer, Cornelius 1a, sw se, 10-14-12e	*	2653
OSAGE COUNTY—		
Carter 1, se sw nw, 34-26-6e	40	2884
PAWNEE COUNTY—		
Gled, Scully 1, nw ne ne, 25-21-7e	80	2752
PAYNE COUNTY—		
Gardner et al, Barnes 1, s sw nw, 13-19-1w	*	4837
PONTOTOC COUNTY—		
Westheimer and Daube, Smith 1, se nw nw, 10-4-7e	*	4132
Superior, Maulden 4, nw sw nw, 32-5-5e	100	2586
POTTAWATOMIE COUNTY—		
Superior, Pratt 1, ne nw nw, 13-8-4e	*	4512
Reynolds Royalty, lot 1, se sw sw se 18-6-4e	*	4090
Mid-Continent, Rogers 3, se sw sw, 5-9-5e	1675	4326
Magnolia, Green 1, se nw, 20-8-5e	60	4747
Independent, Rhodd 1, nw, 16-7-4e	3780	4071
T. B. Slick, Bledsoe 1, nw sw nw, 20-6-4e	205	3700
T. B. Slick, Welden 1, sw nw nw, 20-6-4e	540	3733
SEMINOLE COUNTY—		
Twin State, Ripley 3, ne se ne, 12-8-5e	*	4408
Magnolia, Harjo 1, ne se, 34-6-7e	*	4722
Carter, Skiff 1, se ne, 10-9-6e	160	4215
Carter, Slick 1, ne nw sw, 11-9-6e	1745	4146
Shaffer, Weaver 4, se nw ne, 12-8-5e	55	4155
Gypsy, Cotcha 10, se sw sw, 23-7-6e	¶25	3162
Gypsy, Cotcha 11, sw se sw, 23-7-6e	¶40	3184
Gypsy, Cotcha 13, se ne sw, 23-7-6e	37	3152
Gypsy, Cotcha 14, ne nw sw, 23-7-6e	¶25	3180
Mid-Continent, Eleck 3, nw ne se, 23-7-6e	¶18	3165
Magnolia, Reed 4, se sw nw, 17-5-8e	225	2625
STEPHENS COUNTY—		
Ellis Drilling Co., Ketchem 3, se sw nw nw, 25-1n-9w	*	2335
Smythe et al, Shaw 1, c ne ne, 27-2n-8w	*	2603
Clark and Cowden, Davidson 4, nw sw, 13-1s-4w	120	2944
TILLMAN COUNTY—		
Wirt Franklin, Zwig 1, c nw, 25-1s-18w	*	3501
TULSA COUNTY—		
Mitchell County Oil, Barnett 1, se sw ne se, 1-18-12e	*	2037
C. L. Sherman, Davis 1, ne nw nw, 9-16-14e	*	2108
WAGONER COUNTY—		
M. E. Gleason, Henry 6, cnl nw sw, 29-18-15e	*	1665

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BARBER COUNTY—		
Rowland et al, Pickens 1, ne nw ne, 27-30-14w	*	4718
BUTLER COUNTY—		
T. B. Slick, Connell et al, Zeist 1, nw se nw, 14-27-5e	*	2737
Smith and Ash, Cameron 1, ne, 8-24-6e	*	3138
Empire, Cranston 9, sw nw se, 22-27-5e	200	2745
Lario, Glancy 1, sw, 10-26-3e	400	2765
Allison and Fitzwilliams, Pierce 3, sw ne ne, 28-25-4e	20	2644
CHAUTAUQUA COUNTY—		
Syndicate, Westerfield 1, sw nw ne, 1-32-8e	*	2699
EDWARDS COUNTY—		
Amerada, Tansil 1, c nw sw, 32-25-19w	*	5255
ELLIS COUNTY—		
Twin Drilling et al, Dechart 1, ne se, 12-13-16w	*	3440
HARPER COUNTY—		
Amerada, Mandeville 1, c se se, 24-34-6w	*	5452
OSBORNE COUNTY—		
Empire, Christ 1, se ne, 30-9-14w	*	3775
OTTAWA COUNTY—		
Anderson et al, Ottawa County Bank 1, ne nw, 28-10-2w	*	3755
RUSSELL COUNTY—		
Phillips, Solback 1, se nw, 32-12-14w	*	3410
SEDGWICK COUNTY—		
Bu-Vi-Bar et al, Goodrich 5, ne sw, 6-26-1e	*	3426
Bu-Vi-Bar et al, Bright "A" 2, ne sw se nw, 6-26-1e	*	3511
Morgan et al, Corn 1, sw ne, 28-25-1w	*	3825
Gypsy, Hamant 3, sw nw sw, 14-26-2e	170	3205
Bu-Vi-Bar et al, Carr 6, ne se se, 1-26-1w	650	3375
Bu-Vi-Bar et al, Shawver 6, ne nw nw, 7-26-1e	1275	3370
Bu-Vi-Bar et al, Bright "B" 3, ne sw sw, 6-26-1e	700	3379
Derby, Gorman 2, ne nw sw, 6-26-1e	600	3378
Gypsy, Hamant 1, sw nw, 14-26-2e	1675	3167
Bu-Vi-Bar et al, Carr 3, se ne se, 1-26-1w	1365	3371
Bu-Vi-Bar et al, Carr 4, ne nw se, 1-26-1w	1050	3361
Davis and Skelly et al, Wilson 8, se sw ne, 1-26-1w	1250	3372
Derby, Gorman 4, nw sw nw sw, 6-26-1e	625	3367
Tidal, Scherger 3, sw nw, 6-26-1e	240	3371
Bu-Vi-Bar et al, Rothfuss 1, nw ne nw ne, 7-26-1e	70	3391
Shell, Fischer, ne se, 15-26-2e	785	3203
Bu-Vi-Bar et al, Carr 2, nw ne se, 1-26-1w	1050	3364
Aladdin, Benningfield 2, sw nw sw, 6-26-1e	650	3376
Bu-Vi-Bar et al, Bright "B" 2, sw nw sw, 6-26-1e	950	3369
SMITH COUNTY—		
Mid-Kansas, Lambert 1, ne, 4-2-13w	*	4099

Only *one-tenth* as much space

THE only shelter you have to build when a Westinghouse-Nuttall double reduction oil well pump gear unit is installed, is an 8 x 10-foot "pup-house" to protect the motor and its controls. Contrast this with the 800 square feet of housing space needed for a standard band-wheel set-up. The savings in time, materials, and labor are immediately obvious.

This is but one of the ways in which hundreds of Westinghouse-Nuttall oil well pump gear units are enabling operators to produce more oil at less expense.

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Motor Control
Rig Lighter Sets
Safety Switches
Twin-motor Drilling Equipment
Two-speed Pumping Equipment

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Sales Offices in all Principal Cities of the United States and Foreign Countries

Oil Well Supply Company, Authorized Distributor for Westinghouse-Nuttall oil well units

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Westinghouse

XUM

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
BELRIDGE—		
Ohio Oil Co., Belridge 26	20	735
FRUITVALE—		
Standard Oil Co., KCL 5-2	200	4778
LONG BEACH—		
Dabney-Johnson Oil Corp., 12	125	6965
Lyons & Bordeaux, Burman-Green 1	150	6745
Pan-Cal. Oil Co., 3	2250	7250
Rio Grande Oil Co., Rainbow 6	400	6856
Vista Pet. Co., 2	400	6400
Signal O. & G., Sheehan 3	1168	3240
MARICOPA FLATS—		
Signal O. & G., Sheehan 3	1168	3240
MT. POSO CREEK—		
Pet. Securities, Glide 15	*	1870
The Texas Co., Alta Vedder 2	369	1697
SANTA FE SPRINGS—		
Bellview Oil Co., Grohs 3	4400	6300
General Pet. Corp., 222	350	5495
S. F. 160B	1202	6580
Jalk 114	325	7748
Howard, Oscar, Hathaway 6	2100	8006
Standard Oil Co., Walker 11	8186	6825
The Texas Co., Matern 3-11	3521	6898
Mutual 2	440	6697
SEAL BEACH—		
Standard Oil Co., San Gabriel 21	702	5417
VENTURA AVENUE—		
Shell Oil Co., Gosnell 30	250	7517

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
ALLEGHENY COUNTY—		
Harbison & Co., Wightman 1	3	....
F. P. Martin, Snyder 1	¶2	....
Corey & Co., Schwinderman 1	¶2	....
WASHINGTON COUNTY—		
W. Va. Nat. Gas Co. Property 1	¶5	....
Hone Oil & Gas Co., Keys 1	10	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
RITCHIE COUNTY—		
Hope Const. & Ref. Co., Zinn 7	10	....
E. E. Pope, Wilson 5	2	....
C. B. Burke, West Virginia tr. 18	6	....
WETZEL COUNTY—		
South Penn Oil Co., Bowers 1	5	....
Mfrs. Light & Heat Co., McHenry 1	5	....
Pittsburgh & W. Va. Gas Co., Clarkson 1	10	....
ROANE COUNTY—		
South Penn Oil Co., Nixon 9	30	....
Nixon 10	25	....
LINCOLN COUNTY—		
Downing Gas Co., Davis Hrs. 1	¶¼	....
Mesbon & Huggman, Courdz 3	¶¼	....
DODRIDGE COUNTY—		
J. W. Johnson & Son, Craig-Dudley 1	20	....
LEWIS COUNTY—		
Frank Fletcher, Smith 2	¶2	4150
KANAWHA COUNTY—		
S. W. Kirtley & Co., Wiseman 1	¶¼	....
GILMER COUNTY—		
Mud Lick Oil Co., Burton 1	¶1	....
PUTNAM COUNTY—		
Rex-Ishman Oil & Gas Co., Kimbrough 1	¶¼	....
HARRISON COUNTY—		
Hope Nat. Gas Co., Sommerville 1	*	....

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
OHIO COUNTY—		
New Domain O. & G. Co., Evans 1	*	....
Chester Oil Co., Hamilton 2	25	....
Hupp & Duff, Trodgen 7	200	....
Trodgen 8	160	....
C. E. Daugherty & Co., L. Trodgen 3	300	....
L. Trodgen 4	400	....
Three C's Oil Co., Howard 3	100	....
James C. Fllis & Co., Greer Hrs. 1	40	....
Greer Hrs. 2	40	....
Saddler 2	15	....
Brown 1	*	804
Daniels 15	40	....
Henderson Brand & Co., Dodson 2	125	....
H. L. Ogle & Co., Kellem 2	15	750
James C. Ellis, Bartlett 1	*	....
Armistead Oil Co., Kelley 3	¶½	....
Weir & Stewart, Norris 2	2	....
Sirman Co., Farmer 17	¶½	....
Wood Oil Co., Inc., Rogers 3	50	676
Rogers 2	10	....
Jos. B. Mayer, Guenther-Gant 13	¶¼	....
DAVIESS COUNTY—		
Cumberland Pet. Co., Easton 5	100	....
Smith, Randolph & Co., Wells 10	60	....
Trognite O. & G. Co., Trogden 5	15	....
The Petroleum Co., Hansford 3	20	....
WARREN COUNTY—		
McGinley-Randall Supply Co., Hudson 3	*	570
Allen O. & G. Co., Unknown 3	1	470
HANCOCK COUNTY—		
McMahan & Combs, Hancock Dev. Co. 5	¶2	....
H. A. Henry, Stephens 2	*	....
ALLEN COUNTY—		
E. D. Defenbaugh, Beam 5	*	327

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
MONROE COUNTY—		
Greene & Co., Brown 1	*	1600
Woodsfield O. & G. Co., McElfresh 3	¶¼	1893
Shay McMullen, Edwards 3	¶¼	1900
Gold Crown O&G Co., Johnson 3	¶½	1241
Penn O&G Co., Eichorn 1	¶1½	1588
WASHINGTON COUNTY—		
Shay McMullen, Smith 1	¶¼-10	1168
Buckley & Son, Cleveland Stone Co. 1	1	....
Peoples Banking & Trust Co., Berger Oil Co. 21	¶¼	772
Wm. Huntsman, King 3	¶¼	....
NOBLE COUNTY—		
Rich Bros. & Co., Gregg Heirs 1	2	....
King Tilton, Green 2	*	426
MORGAN COUNTY—		
Ohio Fuel Gas Co., Thomas 1	¶¼	1642

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
ASHLAND COUNTY—		
Ohio Fuel Gas Co., Hillier 1	*	....
Morres 1	¶¼-20	....
Robinson & Co., Heffelfinger 1	4	....
Mohican O&G Co., Chesrown 3	¶¼-30	....
MEIGS COUNTY—		
H. W. McTaggart, Rowley 2	¶¼	617
Caywood & Palmer, Wolf 1	5	510
Tyree & Co., Wm. Carnahan 10	5	612
F. Leifhart, Greenlee 2	5	1620
HOCKING COUNTY—		
Ohio Fuel Gas Co., Rohr 2	¶½	2681
Berry 1	42	2701
Hope Const. & Ref. Co., Marks 2	170	2723
JACKSON COUNTY—		
Ohio Fuel Gas Co., Dearing 2	¶¼	2586
Hill 1	¶1¼	2395
Hawks 1	¶¼	2703
PERRY COUNTY—		
Planet Oil Co., Palmer 1	¶1½	....
J. E. Elder & Co., Poling 4	¶1	....
Householder 7	*	....
MUSKINGUM COUNTY—		
Midland O. & G. Co., Denney 3	130	3102
Pure Oil Co., Anderson 1	140	2994
ATHENS COUNTY—		
Chas. Fox & Co., Bean 2	10	191
Jaynes-Wysong Gas Co., Buck 1	*	1635
SUMMITT COUNTY—		
Geo. Eagon, Yarrick 1	¶½	....
F. A. Brendall & Co., Boettler 1	*	....
WAYNE COUNTY—		
Vanover & Co., Laper 2	*	....
Ohio Fuel Gas Co., Stelzer 1	¶1	....
LICKING COUNTY—		
Wehrle Gas Co., Weaver 1	120	2761
COSHOCTON COUNTY—		
Clark Oil Co., Laurence 9	¶¼-10	....
RICHLAND COUNTY—		
Ohio Fuel Gas Co., Mengert 1	¶½	....
MEDINA COUNTY—		
Ohio Fuel Gas Co., Leister 1	¶¼	....

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
SENECA COUNTY—		
August Oil Co., Fletcher 3	7	1515
Columbus-Tiffin Oil Co., Newson 1	5	1237
Feasel & Co., Rosenbuerger 1	*	1586
W. J. Poyser & Co., Rosenberger 1	*	1676
Sun Oil Co., Hunker 5	*	1383
WOOD COUNTY—		
Napoleon Oil Synd., Mercer 1	12	1270
C. L. Aubert & Co., Smith 5	1	1286

INDIANA

Company, Well and Location	Initial Production Bbls.	Depth
ADAMS COUNTY—		
Geo. S. Lacknett & Co. Baker 2	30	....
Scoofakes & Hefflin 4	10	....
DELAWARE COUNTY—		
F. E. Rickow, Moss 1	*	....

ILLINOIS

Company, Well and Location	Initial Production Bbls.	Depth
CRAWFORD COUNTY—		
Walter Squires & Co., Marks & Croft 6	1	....
Porterville Oil Co., Ackerman 1	50	....
W. C. McBride, Inc., Petty 2	3	....

MICHIGAN

Company, Well and Location	Initial Production Bbls.	Depth
MUSKEGON COUNTY—		
Dixie Oil Co., McLaughlin D-7	350	....
Muskegon Oil Corp., Daniloff 4	500	2048
Bear Lake Oil Co., Jacobson 1	*	2080
M. & L. Oil & Gas Co., Durham 1	*	1958
Eureka O. & G. Co., Bateau 1	250	2031
C. W. Marsh & Co. Young No. 1, tr 2	750	2031
Ira Hallock 3	600	2032
Ira Hallock 4	750	2022
Globe Oil Co., Luenstra 2	500	2024
Johnson O& R Co., Grotefeld 3	¶2½-700	2036
John R. Cox, Dow 1	¶½-200	2067
Maire-Caswell & Kidder, Shuler 2	700	1695
A. J. Doblinger & Co., Eadus 1	350	....
ISABELLE COUNTY—		
East Ohio Gas Co., Weidman 1	200	3045
OCEANA COUNTY—		
Pennsylvania Oil & Gas Co. Snow 1	*	3200
LIVINGSTON COUNTY—		
Smith & Co., Fowlersville 1	*	....
Halsey Hannah, Argentine 1	*	....

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
ASHLEY COUNTY—		
Atlantic O. P. Co., Bledsoe 1, 20-15-7	*	3058
COLUMBIA COUNTY—		
Dr. Bush et al, Jones 1, 5-17-18	*	3302
UNION COUNTY (Champagnolle)—		
Gulf Ref. Co., Gaddy 2, 30-17-14	¶18	2818

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
BOSSIER PARISH—		
Palmer Corp., Schmidt 1, 14-17-12	¶23	877
CADDO PARISH—		
Sam Gold et al, Hunter Est. 1, 17-19-14	691	2415
Ohio Oil Co., Hunter Est. 1, 17-19-14	80	2414
Dixie Oil Co., Robertshaw 99, 13-21-15	*	2256
Wells B-3, 10-21-15	*	1745
Slattery B-3, 21-21-15	*	1607
MOREHOUSE PARISH—		
Southern Carbon Co., Tensas Delta 10, 2-20-4e	¶23	2177
OUACHITA PARISH—		
Ouachita Nat. Gas Co., Smith 11, 28-20-4e	¶38	2163
RICHLAND PARISH—		
O. E. Hodge, W. T. Sartor 1, 16-16-6e	¶45	2450

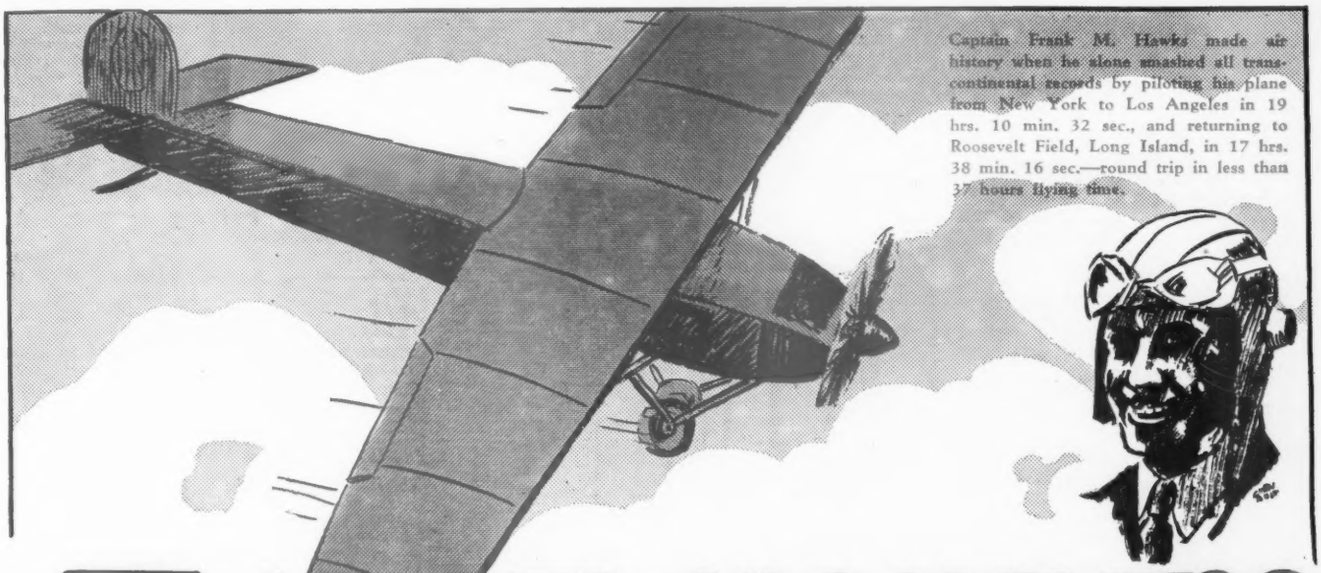
TEXAS

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
BATSON—		
Hill & Dowell, Millholme 98	10	1165
BRENHAM—		
Butler-Calhoun, Schurenburg & Co. 3	150	225
CLAY CREEK—		
Sun Oil Co., Caraway 2	50	1359
BARBERS HILL—		
Talbot & Markle, Schilling 1	850	5200
HULL—		
Republic Prod. Co., Dolbear 112, dd	30	1940
Empire, Barngrover 21, dd	50	3830
Humble, Hooks-Spell 4, dd	*	3660
HUMBLE—		
South Texas Pet. Co., Morris 6	600	4908
Marland, Lee 1	800	4520
PIERCE JUNCTION—		
Smith et al, Parsons 3, dd	*	4770
RACCOON BEND—		
Humble, Sanders 3	500	3500
SOUTH LIBERTY—		
Sun Oil Co., Mitchell 41, dd	*	2250
The Texas Co., Staiti 21	*	1365
Green 5, wo	1250	3215
SUGARLAND—		
Humble, Camp 4	375	3536
Hamner Fee 1	1000	3636

EAST CENTRAL TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
FALLS COUNTY—		
Humble, F. Pucek 1, L. Thurner sur	*	3576
NAVARRO COUNTY—		
Riverland & Tidal, Finch 1, Wm. Hardman sur.	*	2751



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MILLED GROOVE speeds up production where gas pressure is low. There is not a possibility of sand cutting. It does not become clogged with mud or sand.

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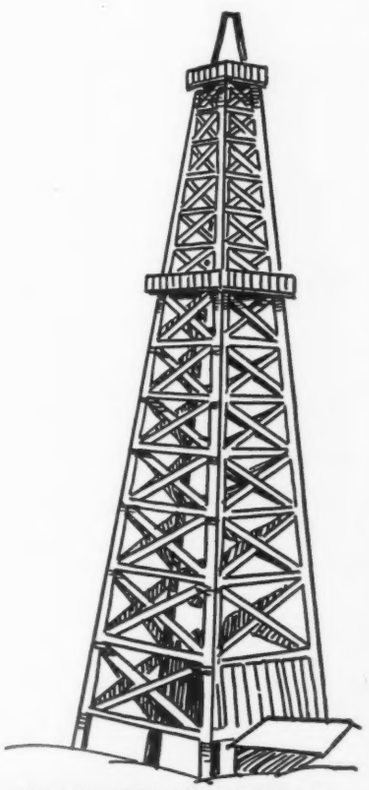

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London, England

LEADERSHIP IN SCREEN MANUFACTURE FOR MORE THAN A QUARTER CENTURY

SOUTHWEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
SALT FLAT—		
Humble, Briscoe 4-A	200	2701
M. Briscoe 2-B	150	2690
M. B. Johnson 3-B	150	2693
Clyant Smith 2-A	300	2712
CEDAR CREEK—		
Atlantic, Yost 7, A. Garcia sur	50	1512
Trinity Drillers, Yost 3	50	1497
BEXAR COUNTY—		
Ray Oil Co., Engleman 1, J. James sur 273	*	1700
CALDWELL COUNTY—		
Shell, Schaffer 1, C. Crenshaw sur	*	1835
Magnolia, Lowman 1	20	2163
DUVAL COUNTY—		
R. Driscoll, Fee 16, sur 448	¶65	2955
Geo. S. Marshall, Webster 1, Carolina-Tex pool	¶40	2134
Humble, Koehler 26, sur 251	*	2888
MEDINA COUNTY—		
Pearson Oil Co., Suburban Irrigated Farms 1, Palmer sur.	¶2	1071
Zig Zag Oil Co., Medina Irri. Co., C. Camp sur. 7	*	2130
WEBB COUNTY—		
J. K. Hughes Dev. Co., Puig Bros. 12, Aviator pool	30	1611
Puig Bros. 13, Aviator pool	25	1575
Puig Bros. 14, Aviator pool	15	1560
L. W. Nelson, Moglia 1, ne part of county	*	2790
ZAPATA COUNTY—		
O. W. Killam, Cuellar 13, Cerrito Blanco gt., H-W-F	50	1485
Trapshooter Reilly, Hinnant 4, Jennings	15	1400
H. Muckléroy, Trevine 1, sur 412, blk 25, Jennings	10	1300
ZAVALLA COUNTY—		
Driggs & Davidson, C. & M. Produce Co. 1, D. M. Pryor	*	1150

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
HOWARD COUNTY—		
Amerada & Rycade, Roberts 10	800	2964
The California Co., Roberts 1, Lse 1	40	2655
Roberts 6, Lse 2	685	2978
Humble O. & R. Co., Clay 3	500	2964
Moody Corp. (Superior), Roberts 13-E	115	1432
Roberts 14-E	130	1420
Schermerhorn Oil Co., Roberts 6-A	75	3047
WINKLER COUNTY—		
Skelly Oil Co., Hendrick 2-C	*	3155
Southern Crude & Westbrook, Hendrick 2-P-T-88	250	2942
Tidal Oil Co., Scarborough 1	230	3056
LOVING COUNTY—		
Lockhart & Co., Hazell 2	200	4233

NEW MEXICO

Company, Well and Location	Initial Production Bbls.	Depth
EDDY COUNTY—		
Grayburg Oil Co., Hugh Burch 2	125	3142
LEA COUNTY—		
Henderson, Dexter et al, McDonald 1	60	3612
The Texas Co., B. Lynch 1	1100	3731
E. L. Humphreys 1	*	3105
Texas Co.-Amerada & Columbian Carbon, Chas. W. Shephard 1	¶25-15	60 3300

NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
Brown & United Prod. Co., Taylor 4	75	1487
L. T. Burns et al, McCrory 2-M	25	1240
Wilson 1-N	*	1711
Continental Oil Co., Falls County 1-C	40	1107
Richardson 6-B	*	1159
Empire G. & F. Co., Parkey 1-C	*	1775
Estacado Oil Co., Prideaux 3	*	620
Fain & McGaha, Taylor 5-A	60	1490
Fain-McGaha & Humble, Logan 2-A	30	1158
C. W. Gilliland et al, Roach 3	35	1261
Harry Hines et al, McCrory 1	*	1405
Humble O. & R. Co., Kunkel 4	315	1184
Turbeville 1-B	*	1529
C. M. Johnson et al, Justice 1	*	1262
C. B. Long et al, Farmer 4	*	1505
B. C. McCarty et al, Lane 1	*	1463
Moran Drlg. Co. & W. Ruff, Richardson 1	*	1250
Pandem Oil Corp., Cox 1	*	1450
F. Payne et al, Parrish 5-A	20	1583
Petroleum Prod. Co., Kunkel 4-B	150	1182
Prairie O. & G. Co., Richardson 4, Lot No. 13	85	1149
The Texas Co., Wilson 1-B	*	1402
Jim Turner et al, Lyles 1	*	1725
W. C. Young et al, Threet 1	*	1300
COOK COUNTY—		
Benson Bros. et al, Goff 1	*	2003
The Texas Co., Embry 1	*	1975
ELECTRA—		
Golding-Cochran et al, Waggoner Bros. 6	350	1301
T. F. Hunter et al, Waggoner Bros. 3-C	60	1319
Panhandle & Venmex Oil Co., Burnett 7	*	1504
FOARD COUNTY—		
Shell Pet. Corp., Tarver 1	200	2053
JACK COUNTY—		
C. A. Fluenty et al, Maxey 1	*	1000
Prairie O. & G. Co., Bryson 4	250	3192
C. E. Rogers et al, Loving 1	*	3510
K-M-A & IOWA PARK—		
Barclay & White, Hodge 1	*	1861
W. H. Hammon et al, Bradley Bros. 2	30	1693
F. B. Jackson et al, Mitchell 1	*	1852
Magnolia Pet. Co., J. W. Donohue 14	20	1290
Ray Mount et al, Preston 1	*	1653
Riner & Bailer, Michie 6-A	70	1797
Michie 1-C	20	1797
MONTAGUE COUNTY—		
Bridwell Oil Co., Edmondson 2	70	1278
WILBARGER COUNTY—		
Barkley-Meadows et al, Waggoner 1-B	200	2435
C. P. Burton et al, Waggoner 4-I	45	1881
Consolidated Oil Co., Waggoner 3-O	200	1876
Waggoner 5-O	400	1875
Davis-Hart Oil Co., Waggoner 1	*	2025
Fain-McGaha Oil Corp., Waggoner 11-L	85	2390
Waggoner 7-W	90	1835
Waggoner 2-Y	100	2412
Phillips Pet. Co., Waggoner 2-DD	75	2295
Waggoner 22-NN	170	2293
Shaw Oil Co., Waggoner 5-G	180	1876
Staley-Wynne & Co., Waggoner 4-G	130	2394
Waggoner 1-O	*	2004
Waggoner Ref. Co., Waggoner 4-J	650	1888
YOUNG COUNTY—		
Bradstreet & Co., Matthews 2	45	724
The Texas Co., Petty 2	*	950

TEXAS PANHANDLE

Company, Well and Location	Initial Production Bbls.	Depth
CARSON COUNTY—		
Cities Service Gas Co., S. B. Burnett 16,	¶22	2740
Empire G. & F. Co., Magnolia Pet. Fee 5-A	225	3140
Mid-West Explo. Co., E. Cooper 1	300	3121
GRAY COUNTY—		
A. R. Anderson et al, H. Heithott 1	150	3136
British-American Oil Co., Purviance 1	70	3008
Continental Oil Co., Finley-Brown 4	1400	2880
Operators Oil Co., Cook-Faulkner 2,	¶40-43	00 2843
Phillips Pet. Co., Morse 1	150	2794
J. H. Palmer 2	1320	2843
The Texas Co., Bruce Bull 2	920	2816
McLarty-Lester 5	185	2910
WHEELER COUNTY—		
Lela O. & G. Co., Laycock 6	70	2239
Northern Texas Utilities Co., Gooch 2	¶25	1553
J. W. Mengers 1	¶7½	1870

CENTRAL WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BROWN COUNTY—		
Humble O. & R. Co., Armstrong 20	100	1220
Tervooren 3	*	997
Geo. McClung et al, Smith 2	20	1885
COLEMAN COUNTY—		
Owens, Inc. et al, Mills 1	*	2163
Continental Oil Co. et al, Overall 8	¶½-85	2221
Green & Mid-Sun Oil Corp., Johnson 1	Junked	930
EASTLAND COUNTY—		
McLester et al, Lee 1	¶¼	3360
TP Coal & Oil Co., Higginbotham 4	¶¾-25	3713
SHACKELFORD COUNTY—		
Amerada Pet. Corp., Whitney 1	*	810
Cranfill & Reynolds, Moberly 3-B	*	1100
Barney Fenoglio et al, Nail 1	*	1450
Hughes et al, Reynolds 1	*	1442
Roeser-Pendleton & Continental Oil Co., Cook 41-A (Sec. 61)	65	1219
Cook 42-A (Sec. 61)	45	1340
Cook 13-A (Sec. 62)	50	1379
STEPHENS COUNTY—		
Chastain & Donley, Ellis 1	*	3400

EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BOGGY CREEK—		
Humble, Elliott & Clark B-2	480	3647
E. Todd A-2	*	3900
T. H. Jones 2-A	375	3715
HARRISON COUNTY—		
Eureka Nat. Gas Co., Vaughn 4, W. R. Anderson sur	¶1½	2368
C. H. Lyons et al, Furrh 6, Short sur	¶2	2375
PANOLA COUNTY—		
Texas Co., Adams A-11, S. B. Lacy sur	¶½	978
D. Thomason, Abe Mays B-1, James Thorpe sur	*	1800

Just Off the Press—

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By JUDGE RAY SCRUGGS

Contains a comprehensive collection of choice anecdotes and stories, compiled by Judge Scruggs after many months of research. A veritable encyclopedia of fun and humor. Contains a number of darkey stories and stories of the South.

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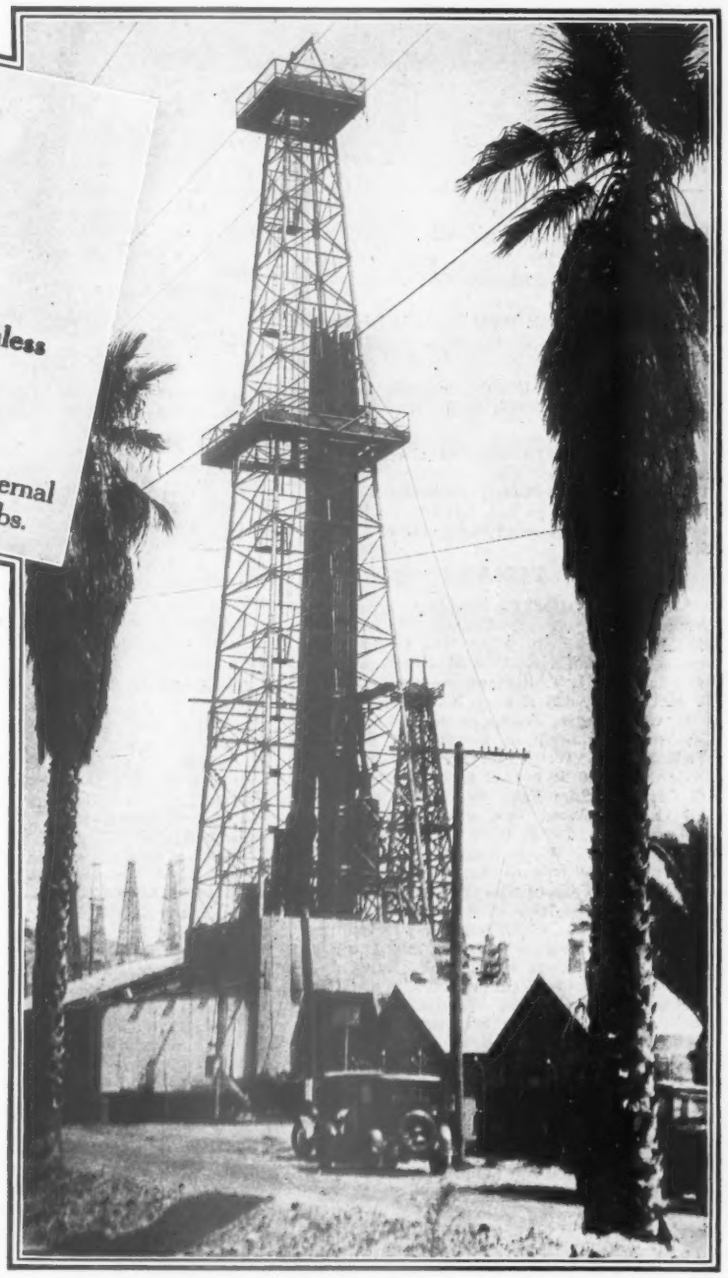
Indian Lease Sale

Tulsa.—The oil and gas lease sale held by the Five Civilized Tribes at Muskogee last week brought a bonus of 69,069.67 for 123 tracts. The leases sold totaled 9,643.65 acres. Five leases that were offered were withdrawn and the other 46 were passed by the bidders. Six Indian fee tracts were sold for $8840.

Champlin Refining Company of Enid bought 28 tracts for $36,692.16; Transcontinental Oil Company bought a number of choice looking pieces and Hargrove Hudson of Tulsa paid $6999.17 for 18 pieces.

Another World's Record for Pittsburgh Seamless!

State Oil Company
Signal No. 1 - Long Beach, Calif.
Total depth - 8065'
Casing:
594' 18" 70 lb. Stovepipe
3270' 11 3-4" 60 lb. Seamless
5965' 7" 30 lb. Seamless
8065' 4 3-4" 16 lb. **Pittsburgh Seamless**
Drill pipe:
3" and 4" **Pittsburgh Seamless**
Tubing:
2 1-2" 6.25 lb. **Pittsburgh Seamless** External Upset - Cementing pressure up to 2210 lbs.



The successful drilling and casing of this record well was in charge of Chester A. Fear and William E. Tizard. They made use of the latest approved *modern aids* to deep well drilling such as surveying the hole, weight indicating and recording devices, careful continuous coring, anti-friction devices, safety devices, and *Pittsburgh Seamless Drill Pipe, Tubing and Casing.*

Pittsburgh Steel Products Co.
DIVISION OF
Pittsburgh Steel Co.

PITTSBURGH CHICAGO NEW YORK HOUSTON ST. LOUIS DETROIT TULSA

State Oil Co's. Signal No. 1, Long Beach, Calif.

CASING TUBING DRILL PIPE LINE PIPE

XUM

PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week ending July 6	Previous week	Total this month	Total this year	This week Last Yr.	This month 1928	1928 year total
Arkansas	6	2	6	75	13	13	331
California	19	24	19	723	30	30	1,207
Louisiana	20	18	20	436	12	12	680
Kansas	32	22	32	527	19	19	1,032
Oklahoma	102	35	102	1,629	96	96	3,744
Texas	194	173	194	4,441	169	169	8,297
Total	373	274	373	7,831	339	339	15,291

ARKANSAS

CALHOUN COUNTY — Ohio Oil Co., Shreveport, La., Stout Lbr. Co. 1, swc sw sw Sec. 31-14-12.

CRAWFORD COUNTY — Industrial O&G Co., Fort Smith, J. B. Brown 1, se se Sec. 10-8-31.

OUACHITA COUNTY—Amerada Pet. Co., Tulsa, Oklahoma, Eagle Mills 1, swc nw se Sec. 11-12-16.

UNION COUNTY—Oilwell Corp., El Dorado, W. H. Perdue E-1, nec nw ne Sec. 9-17-14. Rovenger Oil Corp., El Dorado, W. H. Perdue B-3, nec se ne Sec. 9-17-14. A. H. Ramage Estate, El Dorado, James 11, nec ne nw Sec. 6-16-15.

TEXAS

ARCHER COUNTY—Petroleum Prod. Co., Wichita Falls, A. M. Kunkel, 40, 5B S 3, BBB&C sur, 300 ft w of No. 4; 4B, same sur, 300 ft w of No. 3. Continental Oil Co., Wichita Falls, J. T. Richardson, B 117, 5 B 10, T. McCoy sur, 329 ft e of No. 4. Prairie O. & G. Co., Ranger, Thompson, 4, B 13, T. McCoy sur. Bridwell & Continental Oil Co., Wichita Falls, W. J. Logan, 220, 2, J. M. Taylor sur, 300 ft e of No. 1. Fain-McGaha Oil Corp., Wichita Falls, W. H. Taylor, A 20, 5 B 11 S 17, Amer. Trib. sur, 300 ft e of No. 3; 4, same sur, 750 ft from w and 270 ft from s line blk 11. W. J. Logan, A 160, 3, A. Armes sur, 300 ft e of No. 2. Bridwell Oil Co., Wichita Falls, Falls County, 46, 1 B 8, F.C.S.L. sur, 150 ft from s and w lines. Atlantic Oil Prod. Co., Dallas, W. L. Andrews, 200, 2, Whitaker sur, 1000 ft e of No. 1. Shappell Oil Co., Wichita Falls, J. D. Lyles, 160, 7 S 234, Hooper & Wade sur, 300 ft n of No. 4. Continental Oil Co., Wichita Falls, Falls County, 50 C1 B 16, F.C.S.L. sur, 200 ft from e and 609 ft from s line B 16. Magnolia Pet. Co., Dallas, M. Rutty, 70, 11, J. O'Reilly sur, 300 ft s of No. 8. Kemrow Co., Electra, J. W. Campbell, 65, 5 B 1, D.C.S.L. sur No. 3, 500 ft ne of No. 5. C. W. Clark, Wichita Falls, M E. Durham, 100, 1 B 52, J. W. Harris sur, 150 ft from n and e lines. W. C. Young, Archer County, E. E. Threet, 40, 1, M. Pickens sur, 150 ft from n and e lines. Texas Co., Wichita Falls, T. B. Wilson, B 300 1 B 151, Harris sur, 150 ft from n and w lines of blk 151. Humble, Wichita Falls, W. L. Kunkle, 40, 4 S 3, BBB&C sur, 300 ft w of No. 3. L. O. Nix, Wichita Falls, Matlock, 1, B 25, J. Saunders sur, 450 ft from s and e lines. L. T. Burns, Wichita Falls, L. W. McCrory, 40, 3M B 114, Amer. Trib. sur, 300 ft e of No. 2. Geo. L. Pace, Wichita Falls, T. Mankins, 180, 1 S 1, S. P. Ry sur, 510 ft from n and 490 ft from e line. Petroleum Prod. Co., Wichita Falls, L. F. Wilson, 35, 1 B 7, Geraldine sur, 750 ft from w and 613 ft from s line. W. E. Maxon, Jr., Wichita Falls, F. C. Green, C, 200, 1C, J. Levins sur, 150 ft from s and w lines. Fain-McGaha Oil Corp., Wichita Falls, W. J. Logan, B, 160, 10, A. Armes sur, 300 ft s of No. 9.

ANDERSON COUNTY—Humble, Houston, A. E. Todd, A, 174 2, D. C. Clark sur, 600 ft from s and 450 ft from w line. A. E. Todd, A, 115 3, D. Clark sur, 600 ft from s and e lines.

AUSTIN COUNTY—Humble, Houston, J. C. Walton, B, 1, W. C. White sur, 405 ft from se and 300 ft from ne line. E. A. Mitchell, 30, 2, W. C. White sur, 500 ft se of center of nw line.

BROWN COUNTY—Baker Bros., Brownwood, White, 25, 2, R. Honeycutt sur, 600 ft w of No. 1. Ledger O. & G. Co. & Crabb & McNeel, Cross Plains, J. G. Gaines, 100, 1, N. Jordan sur, 130 ft from w and 200 ft from n line. E. L. Smith Oil Co., Inc., Mexia, L. A. George, 100, 1 S 42, HT&B sur, 150 ft from s and w lines. Lloyd Oil Co., Fort Worth, L. J. Stanley, 292, 16 S 139, W. A. Smith sur, 300 ft n of No. 6. E. E. Meets, Bangs, F. C. Shealds, 60, 1 S 100, 200 ft from e and 250 ft from s line.

BASTROP COUNTY — Superior Oil Co., Austin, R. J. Moore, 181, 1, Jas. Raines sur, sw corner.

CALLAHAN COUNTY—C. L. McCleary et al, Baird, J. A. Walker, 80, 1 S 32, D&D Asy. sur, 150 ft from w and 450 ft from s line n½ of ne¼. Grassroots Oil Co., Fort Worth, G. W. Klutts, 248, 9 S 181 B 43, CCSL sur, 450 ft from n and 900 ft from e line. C. C. Cady, Moran, J. W. Woods, 80, 2 2285, TE&L sur, 450 ft from n and 750 ft from e line. Ellis & Dumas, Abilene, T. A. Irvin, 80, 1 S 349, G. W. Denton sur, 150 ft from n and w line n½ of sw¼. C. A. Redmond, Abilene, G. A. Chrane, 40, 1 S 9 B 6, S. P. Ry sur, 450 ft from and e lines. Kleiner- & H-Y Oil Co., Cisco, G. Biggerstaff, 160, 1 S 310 B 5, S. P. Ry sur, 750 ft from w and 1320 ft from s line se¼. J. F. Mason, Putnam, R. D. Williams, 40, M1 2269, TE&L sur, 300 ft w of No. 2; M2, same sur, 300 ft from s and e lines. M. D. Heist, Putnam, J. S. Hart, 40, 1 S 6, D&D Asy. sur, 450 ft from n and e lines. Drew Beams, Okmulgee, Okla., I. N. Jackson, 320, 4 S 14, T&NO sur, 330 ft from s and w lines ne¼ of se¼.

COOKE COUNTY—Sinclair, Fort Worth, J. C. Embry, 46, 1, R. Rogers sur, 150 ft from s and e lines. Hulet & Palladay Oil Co. et al, St. Jo, L. Z. Huey, 160, 1, S. P. Ry sur, 150 ft from n and w lines. Kewanee O. & G Co., Tulsa, Okla., Milburn, B, 26, 1, M. Elliott sur, 150 ft from s and e lines. Lockhart, 60, 1, C. Lockhart sur, 849 ft from n and 150 ft from e line. Danciger O. & R. Co., Fort Worth, J. F. Huggins, 76, 1 B 9, S. P. Ry sur, 150 ft from n and e lines. Lloyd Oil Corp., Fort Worth, D. B. Wheelock, 80, 2, C. Underwood sur, 490 ft from s and w lines.

COLEMAN COUNTY — Dallas Pet. Co., Houston, J. H. Babington, 80, 6 S 279, W. L. Rose sur, 150 ft e of No. 3. Eastland Oil Co. et al, Fort Worth, Keeney, 40, 1C, R. Cochran sur, 180 ft from sand w lines. T. M. Weathered, Brownwood, M. Dalton, 160, 1 No. 156, W. D. Slayton sur, 750 ft from n and 150 ft from w line.

CARSON COUNTY—T. P. Coal & Oil Co., Thurber, Fee, 2, C. L. Durocher sur, 1400 ft from s and 1200 ft from e line survey.

CALDWELL COUNTY—Cranfill & Reynolds, Cisco, J. Northcutt, A, 103, A3, S. Shupe sur, 300 ft nw of No. 1.

CULBERSON COUNTY — Grisham-Hunter Corp., Abilene, Kloh, 180, 3 S B 59, T. & P. sur, 380 ft from n and 1388 ft from w line nw¼.

CLAY COUNTY — Mid-Continent Holding Corp., Wichita Falls, Johnson, 50, 9 B 49, P.C.S.L. sur, 1300 ft from w and 596 ft from s line; 10, same sur, 475 ft from w and 596 ft from s line; 8, same sur, 1195 ft from n and 515 ft from e line.

DUVAL COUNTY—Magnolia, Dallas, Hahl, 190, 5 No. 250 Blk 24, 300 ft w of No. 4. S. & O. Oil Co., Corpus Christi, Hahl, 34, 5 S 250 B 23, Rosita sur, 750 ft from s and 150 ft from s line B 23. G. M. Partee, Laredo, L. B. Moody, 80, 4 Sec 60, 1284 ft from n and 150 ft from w line w½ of nw¼.

EASTLAND COUNTY — C. L. McCleary, Baird, R. Sublett, 40, 3 S 4, GC&SF sur. T. P. Coal & Oil Co., Thurber, Fee 2, C. L. Durocher sur, 1400 ft from s and 1200 ft from e line survey. F. C. Murray, Eastland, Evans, 80, 1 S 30 B 2, H&TC sur, 150 ft from n and w lines. S. A. Hopkins, Cisco, E. Pippen, 80, 1 3171, TE&L sur, 510 ft from n and 150 ft from e line. Conway Bros. & Champion, Ranger, J. W. Simmons, 160, 5 B 27, McL. C. S. L. sur, 300 ft s of No. 3. Tex-Wa Oil Co., Cisco, T. E. Murrell, 40, 1 S 29 B 2, H&TC sur, 150 ft from e and 450 ft from s line se¼ of sw¼. T. E. Murrell, 40, 1 S 30 B 2, H&TC sur, 150 ft from e and 750 ft from s line nw¼ nw¼. ..

ELLIS COUNTY—W. A. James, Midlothian, H. A. Wilson, 68, 1 B 41, J. A. Gaona sur, nw corner of Blk 41.

FORT BEND COUNTY — Gulf, Houston, Invincible, 500, 7, T. Hobermacher sur, south of No. 6.

FOARD COUNTY—G. K. Harris, Amarillo, I. W. Middlebrook, 40, 1 S 363 Blk A, H&TC sur, center of sw¼ of se¼.

GRAY COUNTY—Marland Prod. Co., Fort Worth, B. E. Finley, 279, 5 S 32 B 32, H&GN sur, 330 ft from e and 1155 ft from s line. Texas Co., Wichita Falls, McLarty-Lester, 246, 2B, J. M. Rose sur, 1662 ft from n and 1597 ft from w line of sur. G. E. Quillan et al, Amarillo, E. Barrett, 160, 1 S 131 B 3, I&GN sur, 330 ft from n and e lines. Big Gray Oil Co., Pampa, J. M. Saunders, 160, 1 S 40 B 3, I&GN sur, 330 ft from s and e lines w½ of nw¼. R. R. Sherwood, Amarillo, E. E. Gething, 160, 1 S 14 B A9, H&GN sur, 990 ft from n and 330 ft from e line ne¼.

GRAYSON COUNTY—E. J. Ruwalt, Gainesville, S. J. Bishop, 40, 1, J. Reese sur, 150 ft from e and 450 ft from s line. Claude Bell, Gainesville, J. E. Conn, 40, 1, T. Grave sur, 330 ft from n and w lines.

GLASSCOCK COUNTY — World Oil Co., Fort Worth, L. S. McDowell, 80, 2C S 21 B 34, T&P sur, 330 ft from n and e lines ne¼ of nw¼.

HARRIS COUNTY—Humble, Houston, W. H. Irvin, 61, 2, W. B. Walker sur, 50 ft n of No. 1. Cullen & West Prod. Co., Houston, Burt, 100, 1, J. B. Stevenson sur, 1020 ft from w and 100 ft from s line. Navarro Oil Co., Houston, Dooley, 16, 4 No. 96, J. Hamilton sur, 50 ft from n and 62 ft from w line.

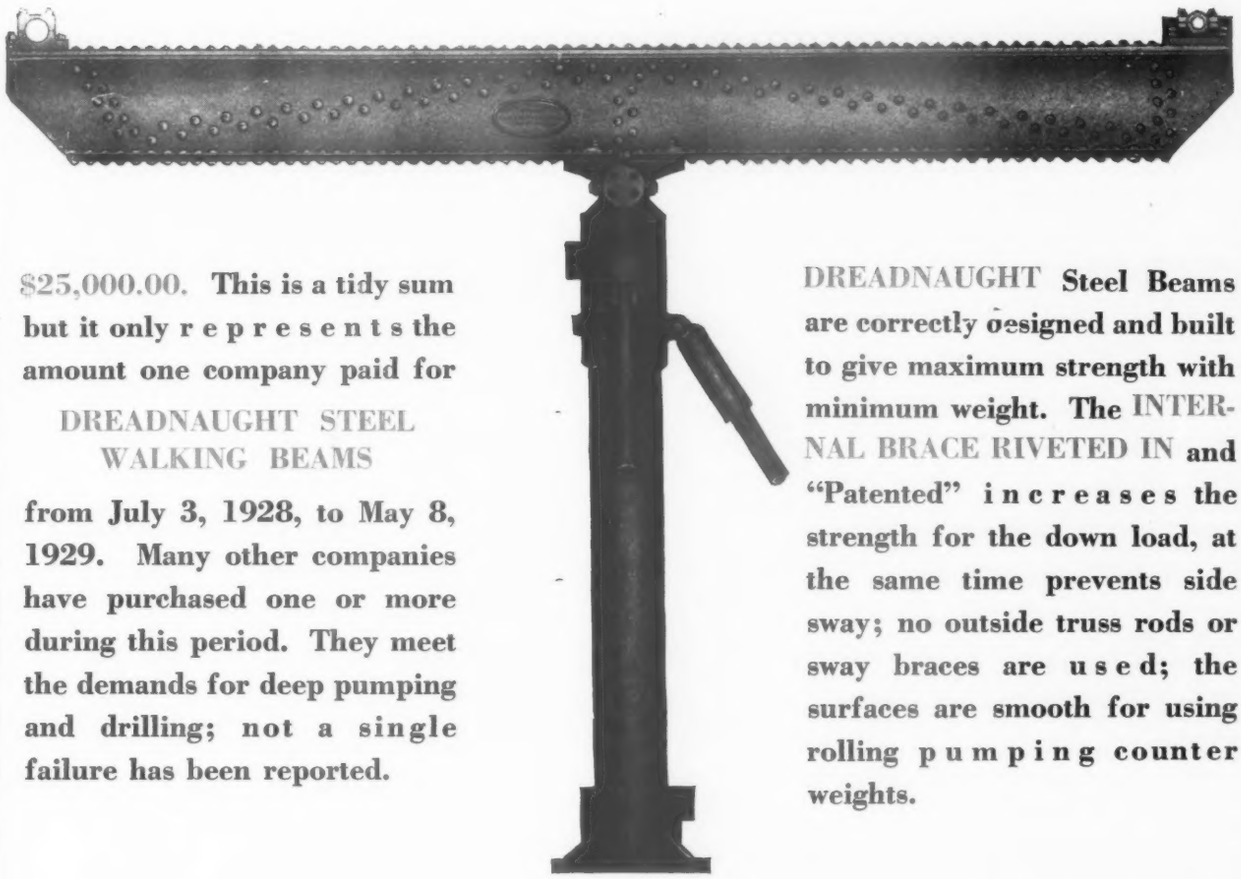
HILL COUNTY—E. S. Fentress, Waco, M. Holderman, 10, 1, C. Sullivant sur, 150 ft from n and e lines. Harper Oil Co., Mt. Calm, J. T. Jones, 41, 2, McDonald sur, 150 ft from n and e lines.

HOWARD COUNTY — Plymouth Oil Co., Big Springs, A. Kloh, 40, 4 S 5 B 32 Twp. 2S, 330 ft from n and w lines. Marland Prod. Co., Fort Worth, M. Chalk, 120, E5 S 124 B 29, W&NW sur, 990 ft from w and 1650 ft from s line Sec. 124. Owen-Sloan Oil Co., Big Springs, D. Roberts, 160, 13 S 136 B 29, W&NW sur, 380 ft from e and 990 ft from s line se¼.

HUTCHINSON COUNTY — Phillips Pet. Corp., Bartlesville, Okla., G. R. Katz, 80, 1 S

XUM

DREADNAUGHT



$25,000.00. **This is a tidy sum but it only represents the amount one company paid for**

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from July 3, 1928, to May 8, 1929. Many other companies have purchased one or more during this period. They meet the demands for deep pumping and drilling; not a single failure has been reported.

DREADNAUGHT **Steel Beams are correctly designed and built to give maximum strength with minimum weight. The** INTERNAL BRACE RIVETED IN **and "Patented" increases the strength for the down load, at the same time prevents side sway; no outside truss rods or sway braces are used; the surfaces are smooth for using rolling pumping counter weights.**

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ON YOUR NEXT BEAM JOB AND ENJOY SATISFACTORY SERVICE TOGETHER WITH 100 PER CENT SALVAGE

SEVENTY-SIX DREADNAUGHT STEEL BEAMS

INSTALLED IN NEW LULING POOL UP TO MAY 8th, 1929

ALL DREADNAUGHT PRODUCTS

ARE PLEASING IN APPEARANCE AND PROFITABLE IN SERVICE — BEAMS SOLD SEPARATELY, SAMPSON POST IF YOU WANT THEM OF PIPE OR H. BEAM CONSTRUCTION

Beaumont Iron Works Company

BUILDERS OF DREADNAUGHTS

BEAUMONT, TEXAS

XUM

35, B Y, A&B sur, 330 ft from w and 350 ft from s line.

JACK COUNTY — Albany Oil Co. et al, Breckenridge, O. Loving, 265, 1 2735, TE&L sur, 330 ft from ne and e lines. Prairie, Ranger, M. Bryson, 120, 6, I. Hughson sur, 330 ft from n and w lines. Chas. A. Fluty, Norman, Okla., S. E. Maxey, 40, 2, J. W. Maxey sur, 150 ft from w and 570 ft from s line. Bryson O. & G. Co., San Angelo, O. Loving, 347, 1 S 3, T&NO sur, 150 ft from n and w lines.

JONES COUNTY—F. E. Shaheen, Abilene, S. W. King, 80, 1 S 197, M. Bueno sur, center of Blk 12.

JEFFERSON COUNTY—Yount-Lee Oil Co., Beaumont, McFaddin, 107, P. Humphreys sur, 2325 ft from w and 1065 ft from n line.

LIBERTY COUNTY—Sun Oil Co., Beaumont, L. Carr, 15, 10, J. Devore sur. Harvey S. Smith, Inc., Houston, Rice Co., 34, 1, No. 150, G. M. Gardner sur, 60 ft from n and w lines.

MONTAGUE COUNTY—Bridwell Oil Co., Wichita Falls, E. E. Edmondson, 15, 3, T. R. Edmondson sur, 332 ft nw of No. 1.

PECOS COUNTY—Mid-Kansas O. & G. Co., Tulsa, Okla., I. G. Yates, E, 320, 2 S 59 B 1, I&GN sur, 1355 ft from n and 280 ft from w line of Sec. I. G. Yates, H, 640, 10 S 32 B 194, GC&SF sur, 225 ft s of center of n line. I. G. Yates, A, 30, SF 12341, Yates sur, 250 ft s of center of n line. Marland Prod. Co., Fort Worth, I. G. Yates, 320, 23S, same sur, 3120 ft from w and 1783 ft from n line of e½. 24S, same sur, 2123 ft from n and 2756 ft from w line; 25S, same sur, 3296 ft from w and 1218 ft ft from n line; 26S, same sur, 3394 ft from w and 1333 ft from n line; 27S, same sur, 3466 ft from w and 1354 ft from n line; 29S, same sur, 3361 ft from w and 1270 ft from n line; 21S, same sur, 1390 ft from n and 3350 ft from w line; 22S, same sur, 4280 ft from n and 3288 ft from w line.

PALO PINTO COUNTY—O. R. Rochell, Mineral Wells, Diamond, 50, 1 S 31 B A, T&P sur, 150 ft e of center of w line.

POLK COUNTY—Sunshine Oil Co., Livingstone, Chase, 20, 2, A. Viesca sur, 241 ft from w and 200 ft from s line.

SHACKELFORD COUNTY—Sedgwick Oil Co., Abilene, Proctor, 40, 1 S 200, E. T. Ry sur, 150 ft from n and e lines. Vacuum Oil Co., Midland, J. B. Matthews, 40, 4C S 29, E. T. Ry sur, 340 ft s of No. 3C. Alex Sommer et al, Albany, W. A. Williams, 160, 2 565, TE&L sur, 450 ft from n and e lines. Big State Oil Corp., Dallas, Russ-Webb, 427, 8 S 17 B 11, T&P sur, 150 ft from w and 495 ft from s line. Roeser & Pendleton & Marland Oil Co., Albany, W. I. Cook, 9, S 88, E. T. Ry sur, 400 ft n of No. 7 sw¼; 8, same sur, 432 ft w of No. 5 nw¼; 7, same sur, 604 ft from n and 1516 ft from w line of sw¼. W. I. Cook, 43, S 61, E. T. Ry sur, 415 ft from n 32 se¼. McBest et al, Albany, R. E. Beavens, 80, 1 S 28, L. A. L. sur, 800 ft from n and 150 ft from w line. F. E. Shaheen, Abilene, E. E. Whitney, 80, 1 S 8, S. W. Jamison sur, 1000 ft from n and 150 ft from w line e½ sw¼. E. E. Whitney, 160, 1, WmLeahy sur, 150 ft from n and e lines. F. W. Holder, Breckenridge, J. F. Dyer, 32, 1 S 85 B 12, T&P sur, 150 ft from n and w lines. Camp O. & G. Co., Wichita Falls, Gollingsworth, 40, 1 B 13, Univ. Lands sur, 450 ft from e and 150 ft from s line. Harry Atwood et al, Ranger, J. L. Todd, 40, 1 S 11, Blind Asy. sur, 150 ft from n and e lines. Cranfill & Reynolds, Cisco, Diller, 20, 1B S 5, E. T. Ry sur, 2930 ft from n and 1318 ft from w line. Amerada Pet. Corp., Fort Worth, E. E. Whitney, 520, 1 S 515, TE&L sur, center. Simms Oil Co., Dallas, J. F. Dyer, 160, 1 S 63 B 11, T&P sur, 800 ft from s and 200 ft from w line.

STEPHENS COUNTY—T. P. Coal & Oil Co., Thurber, C. Binney, 640, 76, S 53, B 4, T&P sur, 710 ft from n and 1080 ft from e line. Jno. L. McMeans, Fort Worth, W. R. Waller, 80, 1, 1526 TE&L sur, 150 ft from s and e lines of nw¼. Sedgwick Oil Co., Abilene, D. G. Stover 80, 1, S 3, B 8, T&P sur, 2094 ft from e and 1200 ft from s line. N. J. Brown, 80, 1, 155 TE&L sur, 150 ft from w and 1200 ft from s line.

VAN ZANDT COUNTY—Pure Oil Co., Ft. Worth, V. T. Davis, 75, 1, M. Gross sur, 150 ft from n and w lines.

WICHITA COUNTY — King Royalty Co., Wichita Falls, J. F. Boyd, 40, 5, B 12, J. T. Lewis sur, 300 ft s of No. 1. W. C. Forbess, Fort Worth, M. M. Maywood, 148, 6, B 197, Wag. Col. sur, 1600 ft from e and 275 ft from s line. L. P. Hammond, Wichita Falls, H. M. Munger, 10, 3, B 30, WVFL sur, 150 ft from n and e lines. Tucker Oil Co., Wichita Falls, J. Hirschi, 166, 29, B 834, D. Cowan sur, 300 ft n of No. 6. Continental Oil Co., Wichita Falls, S. B. Burnett E, 160, E14, S 2, T&NO sur, 50 ft from n and e lines sw¼ of nw¼. Panhandle Ref. Co., Wichita Falls, T. L. Burnett 95, 7, S 2, G. P. Meade sur, 300 ft n of No. 5. Edward Schlaffke, Electra, W. B. Honaker, 75, 2, DL&C sur, 1938 ft from e and 1650 ft from n line. Grayce Oil Co., Wichita Falls, Dodson, 80, 39, R. Hornsbury sur. Texas Co., Wichita Falls, Waggoner, 168, A6, B 29, H. George sur, 150 ft from n and w lines of blk 29; A8, Blk 28, 325 ft w of No. 7. C. A. Mangold, 200, 3, S 37, B A35, P. Castleman sur, 645 ft from s and e lines. Akin, Rayzor & Petroleum Prod. Co., Wichita Falls, T. L. Burnett, 40, 1, S 4, HT&B sur, 150 ft from n and e lines. Ryan Consolidated Pet. Corp., Bartlesville, Okla., G. Nance 764, 109 S. O. Fowler sur, 2728 ft from w and 150 ft from s line. Continental Oil Co., Wichita Falls, A. E. Dodson A, 40, A1, R. Hornsby sur, 206 ft from n and 1850 ft from e line. Mid-Continent Holding Corp., Wichita Falls, Wilkerson, 70, 3, B 3, McCool sur, 300 ft n of No. 1. Riner & Bailey, Wichita Falls, J. D. Michie, 40, 7A, B 8, L. Netherly sur, 314 ft e of No. 3. J. H. S. Bonner, et al, Wichita Falls, Cole, 153, 30, J. McCool sur. Coppock & Coleman, Iowa Park, Kemp & Kempner, 26, 21, B 82, HT& Bsur, 450 ft from n and e lines. Golding & Cochran, Wichita Falls, Waggoner A, 120, 6, S 22, H. George sur, 324 ft w of No. 4. Jno. L. Swanner, Wichita Falls, Williams-Parker 40, 16, B 3, McCool sur, 300 ft e of No. 6.

WILBARGER COUNTY — Texas Co., Wichita Falls, Waggoner, 160, E19, S 25, B 4, H&TC sur, 455 ft s of No. 18. Phillips Pet. Corp., Bartlesville, Okla., W. T. Waggoner, dd, 40, 4, S 42, B 4, H&TC sur, 461 ft from e and 300 ft from s line sw¼ se¼. Golding & Cochran, Wichita Falls, W. T. Waggoner K, 320, 1, S 4, B 17, H&TC sur, 205 ft from n and w lines. Grayback Dev. Corp., Wichita Falls, W. T. Waggoner, 80, 6, S 40, MEP&P sur, 150 ft from n and w lines. Barkley & Meadows, Wichita Falls, W. T. Waggoner, 40, B2, S 17, B 4, H&TC sur, 205 ft from s and e lines ne¼ of sw ¼. Staley, Wynne & Co., Wichita Falls, W. T. Waggoner, 80, G8 S 32, B 4, H&TC sur, 205 ft from s and e lines; G-10, sw corner; G9, 205 ft n of center of s line. W .T. Waggoner, 40, Y1, S 30, B 4, H&TC sur, center of se¼ of sw ¼. Easter Oil Corp., Wichita Falls, Waggoner D 80, 1, S 26, B 4, H&TC sur, 205 ft from n and e lines. King Royalty Co., Wichita Falls, Waggoner A, 80, 2, S 21, B 4, H&TC sur, 150 ft from s and e lines e½ of sw ¼. W. T. Knight, Wichita Falls, W. T. Waggoner, 20, 4A, S 40, MEP&P sur, 300 ft w of No. 1. W. T. Waggoner, 80, F2, S 21, B 4, H&TC sur, 300 ft e of No. 1 s½ of se¼. W. T. Knight, Wichita Falls, W. T. Waggoner, 80, 7, S 40, MEP&P sur, 300 ft w of No. 6 n½ of nw¼; 6, 300 ft w of No. 1. W. T. Waggoner, 20, A5, S 40, MEP&P sur, 300 ft w of No. 4.

WEBB COUNTY — Trapshooter Dev. Co., Laredo, S. Benavides, 40, 2, S 685, 150 ft from n and e lines of nw¼ of nw¼.

WINKLER COUNTY—Southern Crude Oil Purchasing Co., Wichita Falls, I. Hendricks, 280, 4, S 21, B 26, 330 ft from e and 1375 ft from s line of Sec. Skelly Oil Co., Tulsa, Okla., F. Leck, 320, 3, S 22, B 26, 1265 ft from n and 330 ft from s line of s½; 4, 330 ft from n and 1320 ft from w line of s½. Marland Prod. Co., Fort Worth, T. Norton, 120, A1, S 16, B B12, 330 ft from n and e lines of Sec. 16.

WASHINGTON COUNTY — Sun Oil Co., Beaumont, J. W. Hunt, 60, 2, E. Perry sur, 476 ft from nw and 704 ft from ne line.

WARD COUNTY—Jno. F. Shipley, Pecos, L. Munroe, 640, 1, S 3, B 1, W&NW sur, 220 ft from ne and nw lines.

WISE COUNTY—H. E. & W. Oil Co., Fort Worth, J. T. Meadows, 320, 1, S 41, T&P sur, 200 ft from w and 150 ft from s line of Sec.

WHEELER COUNTY—Lone Star Gas Co., Dallas, L. C. Burcham, 160, 3, S 91, B 17, H&GN sur, 660 ft from s and 663 ft from w line of Sec.

YOUNG COUNTY — Pemeta Oil Co., Fort Worth, B. F. Scott, 160, 11, J. N. Smith sur 800 ft s of No. 7. C. P. Burton et al, Wichita Falls, E. H. Morrison, 50, 1, 3401 TE&L sur, 950 ft from n and 150 ft from w line. Steed & Gaus, Wichita Falls, R. W. Blackman, 60, 1, R. Wilson sur, 962 ft from w and 150 ft from n line. Wm. S. Parks, Wichita Falls, A. Williams, 30, 1, W. C. Adams sur, 150 ft from e and 750 ft from s line. Hinson & Tidwell, Graham, J. M. Perkins, 80, 1, A. F. Mitchell sur, 160 ft from n and 1320 ft from e line. Robertson, Dr. C., Fort Worth, R. F. Gilmore, 48, 7, B 14, YCSL sur, 300 ft s of No. 3. Kleiner, West & H-Y Oil Co., Cisco, C. W. Langston, 125, 30, 1490 TE&L sur, 300 ft s of No. 26. Cunningham & Bratcher, Loving, J. C. Edwards, 60, 10, S Tynes sur, 300 ft w of No. 3. Bridwell Oil Co., Wichita Falls, F. M. Cullers, 40, 2, B 25, YCSL sur, 310 ft from n and 500 ft from w line. Texas Co., Wichita Falls, M. W. Petty, 75, 2, BBB&C sur, 150 ft from s and e lines. Robertson Drlg. Co., Fort Worth, F. M. Gilmore, 48, 6, B 14, YCSL sur, 250 ft w of No. 3. M. & V. Oil Co., Wichita Falls, E. Hunt, 50, 2, 160 TE&L sur, 160 ft from e and 150 ft from s line. Kleiner, West, & H-Y Oil Co., Cisco, C. W. Langston, 125, 31, 1490 TE&L sur, 300 ft n of No. 26. W. L. Hawkins, Wichita Falls, J. C. Owen, 160, 3, BBB&C sur, 300 ft n of No. 1. Butler & Perkins, Olney, D. W. White, 30, 2, 160 TE&L sur, nw corner.

ZAPATA COUNTY—O. W. Killam, Laredo, R. Cuellar, 160, 14, J. M. Pereda sur, 900 ft ne of No. 10.

CALIFORNIA

BELRIDGE—The Ohio Oil Co. 27, 30-28-21.

ELK HILLS—W. Leland Foreman, Foreman 1, 6-30-23.

GOLETA—Pet. Secrities Co., Pomatto A-1, 12-4-29.

KERN COUNTY—The Ohio Oil Co. 1, 20-32-25.

KERN RIVER—General Pet. Corp. 29, 14-28-27; 32, 14-28-27.

KETTLEMAN HILLS—C. C. M. O. Co. Sahlein 1, 28-24-19.

LONG BEACH — Graham-Loftus Oil Corp. Del Mar 2, 24-4-13. Western O. & R., Dutcher 2, 19-4-12.

MIDWAY—Union Oil Co., Williams 1, 22-32-23.

NEWHALL—J. M. Queen's 1, 22-3-16.

RICHFIELD—Federal Oil Co., Davenport Comm. 2, 28-3-9. Superior Oil Co., Jesson 1, 33-3-9.

SANTA FE SPRINGS—General Pet. Corp. S. F. 129-A, 5-3-11. S. F. 136-A, 5-3-11. S. F. 146C, 5-3-11.

SANTA BARBARA COUNTY — Louis B. O'Neil 1, 26-8-33. Coffman Oil Co., Ltd. 1, 29-4-27. Shell Oil Co., Union Sugar A-5, 25-10-35.

OKLAHOMA

CARTER COUNTY—Arolow Oil, Cruce 1, ne se, 35-4s-2w. Ven Mex, Dixon 1, se nw, 30-1s-3w.

COTTON COUNTY — Baldwin and Sultan, Rhone 1, nw se se, 35-1s-10w. Clifford Moore et al, Chambers 4, ne se se nw, 2-2s-10w. Silurian, Chambers "P" 3, ne se nw nw, 2-2s-10w.

CREEK COUNTY—Jackson and Wise, Grayson 10, cwl sw sw, 3-15-11e. J. A. Hull, Davis 1, ne se se, 11-17-11e. Texas Pacific Coal & Oil, Harjoche 8, sw se ne, 21-17-9e. The Texas, Derrisaw 9, ne sw sw, 6-17-7e. Silurian, Starr 28, ne se ne ne, 17-18-7e. Bay State, Thilloco 18, (OWDD), sw se nw, 9-18-7e. Magnolia, Musselman 26, (OWDD), ne sw se, 8-18-7e. Superior, Holmes 1, se ne se, 17-19-9e.

GARVIN COUNTY—Texas Pacific Coal & Oil, Jones 1, se sw, 18-1n-2w.

HASKELL COUNTY—Charles Holden, Phillips 2, cnl sw se se, 3-9-18e.

KIOWA COUNTY—J. M. Ruhl, Ditmar 1, nw ne se, 19-6n-16w. Alexander et al, Ditmar 2, ne nw sw se, 18-6n-16w.

LATIMER COUNTY—J. S. Cochran et al, Cushing 1, nw se se, 36-7-22e.

LEFLORE COUNTY—Red Bank, Fee 1, se sw sw, 23-9-24e.

MUSKOGEE COUNTY—H. D. Johnston et al, Smith 2, nw se se, 13-13-18e. Decius and Garrett, Sewell 1, sw se, 17-13-17e. Robinson

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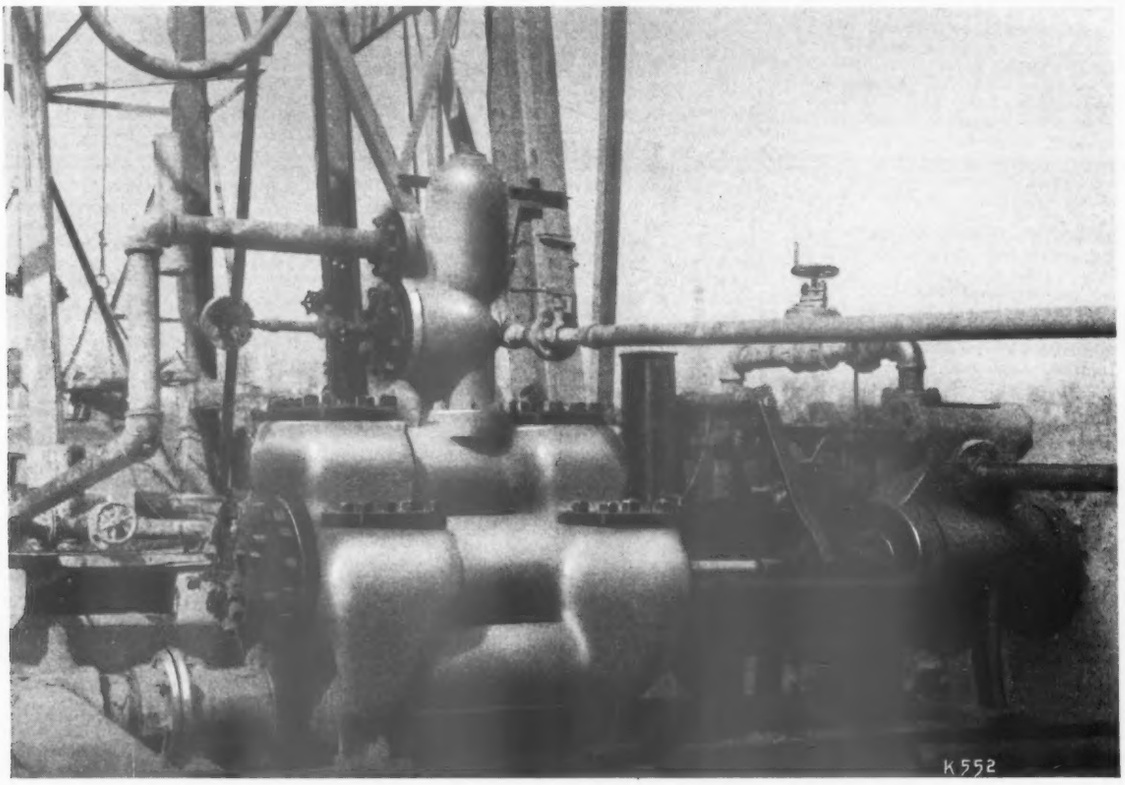

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OKFUSKEE COUNTY—Champlin Refining, Carter 1, (OWDD), se sw, 15-11-11e. W. L. Umburn et al, Robinson 2, sw 1-10-11e. W. L. Umburn et al, Barnett 1a, cel ne nw, 3-10-11e.

OKMULGEE COUNTY — J. H. Rebold, Hardridge 6, sw se ne, 27-13-14e. Kessler, Colbert 5, c nw nw, 16-14-14e. J. E. Wallace, Colbert 8, (TWIN) c sw ne, 14-14-14e. F. D. Misener, Colbert 2, cel se nw, 14-14-14e. Machlin and Berlin, Colbert 8, cel se ne, 14-14-14e. Denton and Marshall, McKinney 1a, (OWDD), ne nw, 16-15-14e. Edgerly et al, Brown 1a, ne se, 28-15-13e.

OSAGE COUNTY—Phillips, 17, nw se nw, 23-27-5e. Indian Territory Illuminating, 413, se ne se, 6-25-11e. Tidal, 6, se nw se, 20-24-9e. Peters, 3 "A," nw ne sw, 32-24-9e. Mid Co, 1, ne nw, 13-22-9e. Clint Moore Estate et al, sw nw ne, 16-21-9e, (OWDD).

PAWNEE COUNTY—Jackson et al, 7, ne sw nw, (OWDD), 25-20-9e. H. U. Bartlett, Martin "B" 1, ne se se, 15-20-9e.

PAYNE COUNTY—Wheeler and Mote et al, McLaughlin 1, se nw nw, 7-17-5e.

PITTSBURG COUNTY—Robert Galbreath, Snyder 1, c w½ sw, 28-4-13e. Quinton Relief, Houston 1, c sw se, 9-7-18e.

PONTOTOC COUNTY — Denver Producing & Refining, Roberts 2, ne se ne, 36-5-4e.

POTTAWATOMIE COUNTY — Empire, et al, Keys 1, se, 6-9-5e. Flake, Reade 1, se nw nw, 8-9-5e. Flake, Townlot 1, ne se nw, 8-9-5e. Phillips, Weldfield 1, nw 26-8-4e. Indian Territory Illuminating, Shobe 2, sw se se, 35-8-4e. Empire, Jackson 1, sw se sw, 36-8-4e. Wilcox, Smith 7, sw ne se, 8-8-5e. Wilcox, Smith 8, se ne se, 8-8-5e. Shell Jordan 1, sw nw, 9-8-5e. Frank Moore, Fundis 1, se ne, 19-7-3. Independent, Borrows 3, ne nw nw, 1-7-4e. Independent, Borrows 4, nw ne nw, 1-7-4e. Magnolia, Jones 1, nw ne se, 8-7-4e. Magnolia, Jones 2, ne nw se, 8-7-4e. Atlantic, and Champlin Refining, Bewley 1, se nw se, 9-7-4e. Magnolia, Tarter 1, sw nw sw, 15-7-4e. Magnolia, Richardson 2, sw, 15-7-4e. Darby, Youngblood 6, nw se nw, 16-7-4e. Slick and White Eagle, Latimer 2, ne sw nw, 16-7-4e. Independent, Pappan 2, se, 16-7-4e. Independent and Darby, Curly 1, nw se nw, 22-7-4e. Simms, Pappan 1, nw ne ne, 29-6-4e.

SEMINOLE COUNTY—Barnsdall, Hotulke 5, (TWIN) ne se, 22-7-6e. Gypsy, Cotcha 17, (TWIN) sw ne sw, 23-7-6e. Indian Territory Illuminating, et al, Chatkey 1, sw ne, 12-10-6e. Magnolia, Moore 2, ne se, 24-9-5e. Gypsy, Payne 2, ne se, 18-9-6e. Magnolia, Anderson 6, nw sw ne, 18-9-6e. Magnolia, Anderson 5, se ne, 18-9-6e. Barnsdall, Dixon 1, ne nw sw, 18-9-6e. Magnolia, Anderson 7, nw ne sw, 18-9-6e. Marland, Smith 1, se sw nw, 18-9-6e. Carter et al, Amerada 1, sw nw se, 11-9-6e. Sinclair, Coody 2, nw sw ne, 18-9-7e. Continental, Johnson 4, ne se nw, 18-9-7e. Continental, Johnson 3, nw se nw, 18-9-7e. Sinclair, Johnson "B" 2, ne sw nw, 18-9-7e. Sinclair, Coody 3, se sw ne, 18-9-7e. Sinclair, Gypsy, Okfuskee 1, sw nw ne, 18-9-7e. Sinclair, Johnson 1, se ne nw, 18-9-7e. Magnolia, Reed 2, sw ne, 4-8-7e. Gypsy, sw ne, 4-8-7e. Gypsy, Cotcha 18, (TWIN) nw sw, 23-7-6e. Texas, Hotulke 6, (TWIN) sw nw, 23-7-6e.

STEPHENS COUNTY—Sykes and Fossett, Blake 1, nw ne sw, 16-1s-6e. Winkler and McQueen, Springer 6, se nw se nw, 28-1s-8w. Huff and Duff, Burke 6, sw ne, 34-1s-8w. Lone Eagle, Simpson 12, ne nw se, 34-1s-8w. Murphy, Fobb "B" 16, sw se nw sw, 12-2s-8w. Magnolia, Marks 5, ne se, 13-2s-8w.

WAGGONER COUNTY — Ash Brothers, Childers 1a, ne nw, 22-18-17e. Midco, Drew 2, se sw, 15-18-17e. Ash Brothers, Love 1, se ne sw, 15-18-17e. J. E. Martin et al, Drew 2, ne se sw, 26-18-15e.

KANSAS

BARBER COUNTY—Skelly, Skinner 1, sw ne, 13-34-15w.

BUTLER COUNTY—Sinclair, Johnson 1, ne, 16-26-3e. Arkansas Natural Gas, Campbell 1, se, 9-26-3e.

ELLIS COUNTY—Phillips, Shutts 2, sw ne, 5-12-17w. Phillips, Weiger 1, ne, 19-12-17w. Davis et al, Weiland 3, se ne ne, 1-13-16w. Barnsdall, Johnson 1, ne, 9-13-19w.

GREENWOOD COUNTY—Mendenhall and Son, Hollister 1, ne sw, 9-25-13e. Mid-Continent, Geise 4, sw se ne, 13-24-12e. Simmons and Amerada, Ellis 8, sw ne sw, 26-23-11e. Smith and Polhamus, Cook 1, se nw, 10-24-10e. Christy and McCulloch et al, Lewis 1, nw ne sw, 25-27-8e.

HARPER COUNTY — T. B. Slick et al, Greisinger 1, se, 13-34-8w.

LYON COUNTY—B. B. Blair, Martindale 1, nw ne ne, 27-21-11e.

McPHERSON COUNTY—Perry et al, Wade 1, c se, 20-19-4w. Lario, Diener 1, se sw, 10-20-1w.

RICE COUNTY—Milmac et al, Kane 1, c se, 29-19-7w.

RUSSELL COUNTY—The Texas, Leonard 2, sw nw nw, 6-13-15w.

SEDGWICK COUNTY—Wentz, Bright 3, ne se nw, 1-26-1w. Wentz, Bright 2, se nw, 1-26-1w. Davis and Skelly, Wilson 10, nw sw ne, 1-26-1w. Bu-Vi-Bar, Reed 3, sw se se, 1-26-1w. Bu-Vi-Bar, Reed 2, nw se se, 1-26-1w. Bu-Vi-Bar, Carr 5, nw se, 1-26-1w. Patton and Wentz, Duncan 1, ne nw, 6-26-2e. Ramsey et al, Mason 2, ne se sw sw, 15-26-2e. Barnsdall, Rapp 1, ne nw nw, 22-26-2e. Bu-Vi-Bar et al, Carr 8, sw ne se, 1-26-1w. Davis and Skelly, Wilson 12, nw se ne, 1-26-1w.

SUMNER COUNTY—Mid-Continent, Clark 1, se, 31-34-3w.

TREGO COUNTY—R. E. Day et al, Gugler 1, sw ne ne, 36-12-21w. Mid-Kansas, Ridgeway, ne sw, 28-12-21w.

LOUISIANA

BOSSIER PARISH—Palmer Corp., Shreveport, L. McDade 2, 13-17n-12w, 660 ft n and 660 ft e of sw c nw sw.

CADDO PARISH — Fred McWilliams, Shreveport, Pope Oden 1, 20-19n-14w, 1650 ft s and 330 ft w of ne cor of Sec. Ohio Oil Co., Shreveport, S. S. Hunter Est., Inc. 3, 17-19n-14w, 330 ft n and 330 ft e of sw c nw ne. Ohio Oil Co., Shreveport, S. S. Hunter Est., Inc. 4, 17-19n-14w, 330 ft n and 330 ft w of se c nw ne.

CALCASIEU PARISH — Vacuum Oil Co., Houston, Bordages 7, 9-10s-9w, 400 ft n and 100 ft w of se c ne nw. Vacuum Oil Co., Houston, Fee A-3, 9-10s-9w, 100 ft n and 415 ft e of sw c nw ne.

CAMERON PARISH — Cameron Oil Co., Inc., Vinton, Ludger Duhon 5, 28-12s-10w, 900 ft n and 320 ft e of sw s sw. Shell Pet. Corp., Houston, Mrs. J. B. Watkins 12, 18-12s-12w, 1885 ft s and 1275 ft w of ne c.

CLAIBORNE PARISH—El Dorado Chief Oil & Gas Co., Inc., New Orleans, Elmo Simmons 1, 27-20n-7w, 910 ft s and 720 ft w of ne c sw ne. Southern Crude Oil Purchasing Co., Fort Worth, E. O. Christian 1, 22-23n-6w, 2310 ft n and 990 ft e of sw c.

IBERIA PARISH—Gulf Refg. Co. of La., Houston, Tex., La. State Z-10, 26-11s-9e, apprx. 9224 ft e and 59.9 ft s of center of Sec. 26 11s-9e, in Lake Fausse Pointe.

IBERVILLE PARISH—Standard Oil Co. of La., Shreveport, A. Wilbert Sons Lbr. & Shingle Co. 3, 2812 ft n and 810 ft w of se c sw se.

JEFFERSON DAVIS PARISH — Vacuum Oil Co., Houston, Tex., DeVilbiss 2, 14-9s-4w, 500 ft s and 1100 ft w of ne cor of sec.

LA SALLE PARISH — O. W. Clark, Tr., Pine Bluff, Ark., Tullos 7, 23-10n-1e, 600 ft s and 625 ft w of ne c se sw. O. W. Clark, Tr., Pine Bluff, Ark., Tullos 8, 23-10n-1e, 27 ft w and 150 ft n of se c se sw.

MOREHOUSE PARISH—Consolidated Carbon Co., Monroe, J. White 2, (amended permit), 16-20n-4e, 1051 ft w and 1096 ft n of se c. Magnolia Pet. Co., Shreveport, U. S. A. 5, 29-21n-5e, 620 ft n and 330 ft w of se c ne sw.

RICHLAND PARISH — Palmer Corp., Shreveport, Mrs. Nellie Jones A-1, 22-17n-6e, 660 ft s and 660 ft e of nw c ne sw.

UNION PARISH—Bahan & Bahan, Shreveport, J. A. Peek 1, 17-20n-4e, 1007 ft s and 126 ft w of ne c. Bahan & Bahan, Shreveport, J. A. Peek 2, 17-20n-4e, 1425 ft s and 100 ft w of ne c.

WEBSTER PARISH — J. W. Clark, Tr., Shreveport, W. B. Roseberry 1, 33-23n-9w 1320 ft e and 330 ft n of sw c.

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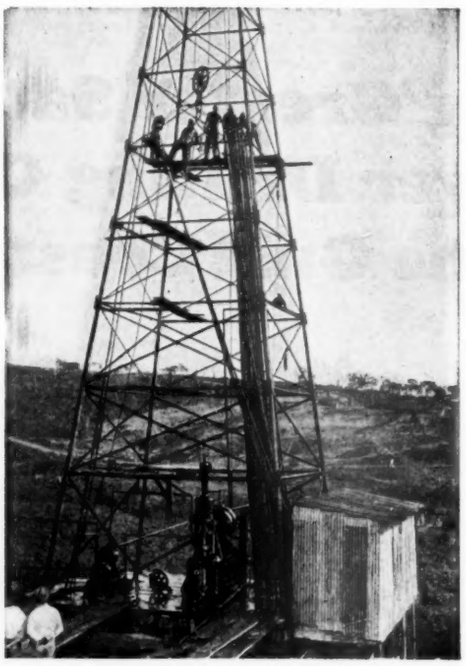

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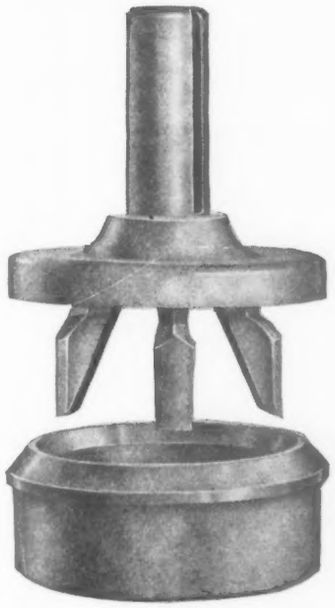

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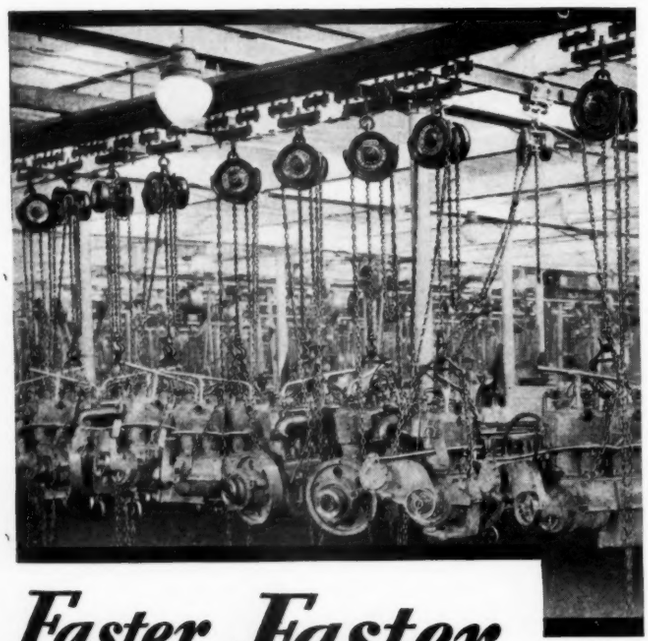

Faster..Faster FASTER

The automotive industry has contributed much to the welfare of this modern world. It has reduced the factors of time and distance.

The automobile furnishes its owner with speedy transportation. Speed is also demanded in its own production to attain the lowest possible cost; hence the extensive use of Yale Ball-Bearing Spur-Geared Chain Blocks where the *greatest speed* and *safety* are vital.

The automotive industry has introduced startling innovations in stepping up production—lessons other industries have profitably taken to themselves. These too, find Yale Chain Blocks indispensable.

The Yale Ball-Bearing Spur-Geared Chain Block is the fastest, safest hand hoist with maximum maintained efficieney.

May we suggest a practical, profitable application for you?

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YALE **Hoisting and Conveying Systems**

YALE MARKED IS YALE MADE

Blue Devil *The* Economy Pump *Red Top*

Doing one thing better than it has ever been done before

TO build a liner barrel pump is a simple thing but to build a good liner barrel pump is another matter. To build the best, has taken the entire thought of one Company organized and operated for seven years producing but one article—a liner barrel pump beyond comparison and without competition — such a pump is the Economy. A pump that will not sand up. Made to a definite standard for quality and sold at a published price.

A full floating traveling valve that overcomes rod trouble—no unscrewing, no breakage. The ONE Pump all workers can recondition perfectly using all standard reconditioning equipment.

Made in two styles, the BLUE DEVIL with 4 or 8 cups traveling valve, and the RED TOP with perfection Pack Valve. Made in all lengths and for 2″ and 2½″ tubing. Economy Pumps are made one foot shorter than standard working barrels, 4 ft., 5 ft., 6 ft., and 7 ft.

The ECONOMY Pump is the one pump with the one price, regardless of length, the 2″ BLUE DEVIL with 4 cup valve selling for $32.00; with 8 cup valve $36.00.

The RED TOP with Perfection pack valve $36.00.

ALL PUMPS SHIPPED PREPAID.

To those that have not used Economy Pumps we offer you this plan; send us an order for a RED TOP and we will give you a BLUE DEVIL, run them both, decide yourself, then your orders will come for more either thru your Supply House or direct.

Economy Pump Co.

TULSA, OKLAHOMA

WILDCATS FROM ALL SECTIONS

WEST TEXAS

Company, Well and Location	Production Bbls. Initial	Depth
Completions		
GARZA COUNTY—		
Emerald Oil Co., Reed 1	35	2543
JONES COUNTY—		
Geo. Callahan & Worth Oil Co.'s Britton 1	*	3223
PECOS COUNTY—		
Harry Adams & Jas. McKanna, University 1	*	1991
Continental Oil Co., University 1..Junked		380
RUNNELS COUNTY—		
Ira Nourse & E. Tilton, Cramer 1..	*	3971
WARD COUNTY—		
Penn Oil Co. et al, Bennett 1....Junked		480

ANDREWS COUNTY—Mid-Continet Pet. Corp.'s Fisher 1, elev 3192 ft, top salt 1720 ft, top lime 4275 ft, sd with show oil and sulphur water, td 4674 ft.

BORDEN COUNTY—W. A. Moncrief & Humble's S. I. Munger 1, dk. Teas & Wheeler's Long 1, sp.

BREWSTER COUNTY—Ed W. Bateman & Co.'s 1-A, machine. Brewster Oil Co.'s Fee 1, crooked hole 1930 ft. E. L. Chapman et al's Skinner 2, sd 300 ft. J. P. Johnson & Bert Weekley's Jackson-Harmon 1, elev 3972 ft, dr 1560 ft.

COKE COUNTY—Ray McCamey et al's McCutchen 1, ur cas 3100 ft. Mid-Kansas O. & G. Co.'s Lackey 1, elev 2152 ft, dr 3815 ft.

CONCHO COUNTY — Jones-Liner et al's Jones 1, top lime 1770 ft, sd 1975 ft. A. W. Turner & Guardian Oil Co.'s Brosig 1, sp and sd.

CRANE COUNTY—Gulf Prod. Co.'s Waddell 7, elev 2763 ft, top salt 1108 ft, top lime 2972 ft, plug back from sulphur water at 3610 to 3583 ft for shot.

CROCKETT COUNTY—W. A. Moncrief et al's R. A. Andrews 1, (Sec. 57) sp and sd; R. Massie 1, (Sec. 47) elev 2520 ft, co 1405 ft; Todd 1, (Sec. 29) lcn. Eppenauer Drlg. Co. & West Texas Pet. Corp.'s Noelke 1, sd 665 ft. Lewis-Daniels' Ingram's Pecos River Bed 1, elev 1967 ft, top lime 1002 ft, co 1008 ft. Taylor-Link Oil Co.'s Powell 3, sp and sd.

CULBERSON COUNTY — Deep Rock & Grisham-Hunter Corp.'s Kloh 3, machine. Hickey et al's Finley 1, elev 3916 ft, sd 2275 ft. Scott & Dittman Drlg. Co.'s Miller 1, elev 4059 ft, set cas 2540 ft. West Texas Oil & Explo. Co.'s McGregor 1, sd 620 ft.

JEFF DAVIS COUNTY—Sam F. Means et al's J. Z. Means 1, sd 4005 ft.

EL PASO COUNTY—C. E. Sillix et al's Malone 1, dr 1035 ft.

FISHER COUNTY—Cranfill & Reynolds & Sun Oil Co.'s Flannigan 1, elev 1798 ft, dr 510 ft. Culbertson et al's Griffin 1, sd 2970 ft. Gilman-McMurray & French's Cleveland 1, elev 1973 ft, dr 3755 ft. Magnolia Pet. Co.'s Alice Lee 1, dr 1510 ft. Mid-Kansas & Phillips Pet. Co.'s Stephenson 1-A, skid dk 50 ft south, td 667 ft. Mid-West Explo. Co.'s Steele 1, lcn. Roeser-Pendleton & Amerada's Haught 1-A, dr 1640 ft; J. T. Johnson 1, lcn. Texas Co.'s Stephens 1-B, rig.

GARZA COUNTY—Emerald Oil Co.'s Bargsley 1, sp. Gulf Prod. Co.'s Street 1-D, elev 2505 ft, top salt 770 ft, dr 2370 ft. Thompson et al's F. Tuffling 1, lcn.

GLASSCOCK COUNTY—A. & F. Oil Co.'s S. Turner 1, elev 2543 ft, top lime 2155 ft, coring with dry hole 2305 ft. California Co.'s E. F. Turner 1, sp. Gibson-Johnson et al's Dean 1, elev 2718 ft, top salt 1075 ft, top lime 2560 ft, co after shot, td 2800 ft. Houston Oil Co. et al's McDowell 1, dr 1870 ft. Kirby Pet. Co. et al's Phillips 1, dr 655 ft. Lion O. & R. Co.'s Coffee 1, lcn. Mid-West Explo. Co.'s Edwards 1, sp. Penn Oil Co. et al's Shaffer 1, dr 285 ft. Texas-State Oil Co.'s Edwards 1, elev 2425 ft, top salt 1300 ft, dr 1805 ft. World Oil Co.'s McDowell 2-C, rig.

HOCKLEY COUNTY—World Oil Co.'s Ellwood 1, elev 3363 ft, dr 1935 ft.

HOWARD COUNTY — W. A. Moncrief-Madza & Fuhrman Pet. Corp.'s Reed 1, dr 355 ft. Gibson-Johnson et al's Reed 1, elev 2323 ft, top lime 1910 ft, dr 2990 ft. McGinley-Sigler Co.'s B. Hyman 1, (Sec. 92) dr 1205 ft. Meriwether Oil Co.'s Eva Smith 1, sd 430 ft.

HUDSPETH COUNTY — The California Co.'s University 1, elev 5833 ft, fsh cas 1640 ft. L. E. Lockhart et al's Fee 1, elev 4799 ft, dr 1355 ft. Geo. Richardson et al's S. J. Thaxton 1, lcn. Western States Oil Co.'s Gardner-Mosely 1, elev 5086 ft, sd 3155 ft; Moore 1, elev 5050 ft, sd 2760 ft.

IRION COUNTY—W. W. Brown-Perry Fox et al's Tankersley 1, (Sec. 712) elev 2241 ft, swabbed 50 bbls 37 degree gravity clean oil 1333-35½ ft. J. B. Crawford et al's Williams 1, sp and sd. Kingwood Oil Co. et al's Sugg 1, elev 2334 ft, dr hard lime 7200 ft. Pecos Valley Oil Co.'s Joe Stocks 2, elev 2265 ft, fsh 1200 ft. F. E. Webb et al's Nutt 2, machine. Wittmer O. & G. Properties' Abe Mayer 3, dr 1370 ft.

JONES COUNTY—J. H. Adsit et al's Swenson 1, fsh 700 ft. E. P. Campbell & Co.'s King 1, sp and sd. W. G. Clark et al's Miller 1, rig; Newman 1, dr 280 ft. Sam Knepley et al's Horn 1, (dd) elev 1759 ft, top lime 2410 ft, cavey hole 2637 ft. McGinley-Sigler Co.'s Whittemore 1, sd 2621 ft. F. E. Shaheen et al's King 1, dr 90 ft. E. M. Treat O. & G. Co.'s Hodges 1, show oil and gas 1830-1935 ft, dr 1995 ft. White Eagle O. & R. Co.'s Teague 1, dr 2425 ft.

LOVING COUNTY—Lockhart & Co.'s Bower-Wells 2, top salt 725 ft, dr 2070 ft; Hazell 1, elev 2705 ft, dr 2890 ft; Johnson 1, elev 2519 ft, top lime 3272 ft, sd hfw 3310-28 ft; Wheat 1-H, co 4197 ft.

LYNN COUNTY—Hart Oil Corp. & McCamey's Edwards 1, elev 3128 ft, top salt 2140 ft, dr anhydrite 3445 ft.

MENARD COUNTY—J. L. Duffy & Carl Cromwell's Winslow 1, dr 1710 ft.

MIDLAND COUNTY—Phillips Pet. Co.'s Stokes 1, elev 2666 ft, top salt 1610 ft, top lime 3720 ft, set cas 4260 ft.

MITCHELL COUNTY—The California Co.'s Clark 2, top lime 1540 ft, co after shot, td 3115 ft; Handley 1, dr 2060 ft. Clopton & Hammon's McKenzie 1, lcn. Simms Oil Co.'s Ellwood 1, elev 2237 ft, top lime 1215 ft, cemt 4¾-in cas at 4400 ft, dr plug 4428 ft. Republic Prod. Co.'s Scott 1, dr 2010 ft. Teas & Wheeler's Radford 1, sd 4080 ft. Westyde Inc. Co.'s Ellwood 1, elev 2185 ft, dr 1815 ft.

NOLAN COUNTY—L. G. Bradstreet & Co.'s Kuteman 1, elev 2488 ft, dr 3350 ft. Gibson-Johnson et al's S. P. Boyd 1, lcn. Phillips Pet. Co.'s Plunkett 1, dr 2465 ft.

PECOS COUNTY—Anderson-Prichard & M. Warner's J. S. Masterson 1, lcn. Buell-Hagan et al's University 1-B, elev 2760 ft, top salt 945 ft, pump 20 bbls daily 1320-32 ft. Karl Crowley et al's Heiner 1, elev 2548 ft, sd 1302 ft. Ditto Oil Interests' Montgomery 1, elev 4434 ft, sd 1505 ft. Doran & John McGee et al's Pecos Valley Fee 1, elev 2437 ft, top salt 1080 ft, showing oil and gas, plug back from 1670 ft, account sulphur water. Cowboy Evans et al's Pecos Fee 1, sd 700 ft. Gibson-Johnson et al's Grace 1, dr 685 ft. Independent O. & G. Co.'s Rayburn-Iowa Realty Co. 1, dr 1280 ft. Jay Hawk Pet. Co.'s Price 1, machine. J. L. Kennedy et al's T. P. Kennedy 1, lcn. Sam Kitts et al's Sherbino 1, dr 780 ft. Landreth Prod. Corp.'s University 1, lcn. Marland Prod. Co. (Continental's) University 1-A, skid rig, to 380 ft. Mauch & Krogen's Holmes 1, elev 2325 ft, top salt 535 ft, sd 1442 ft. W. A. Moncrief et al's Jennie Sullivan 1, (Sec. 98) lcn; Sullivan 1, (Sec. 70) lcn; Tippett 2, lcn; Toberg 1, sp and sd; University 1, (Sec. 27)

ABBREVIATIONS

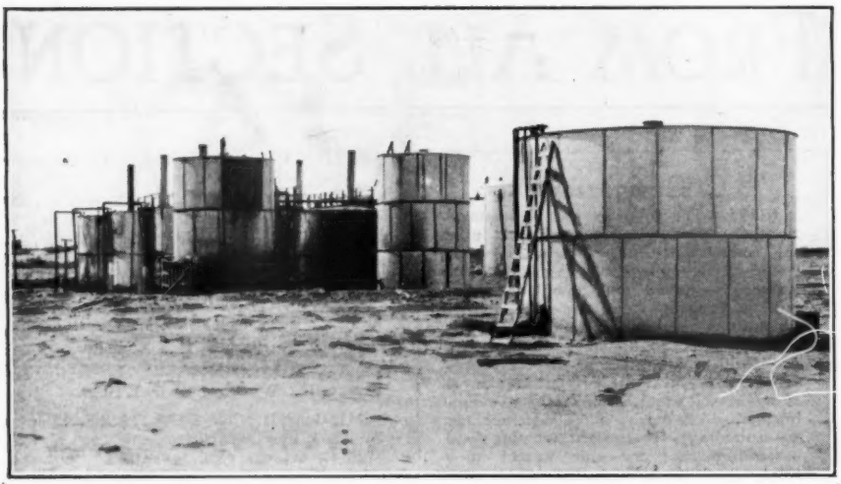
NOTE—The following is the explanation of abreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

O. C. S. Company Uses Plane

To facilitate sales and engineering service to its customers, Oil Country Specialties Manufacturing Company, Coffeyville, Kansas, has acquired the Stinson four-passenger airplane pictured above. The airplane is equipped with a Wright Whirlwind motor.

Offices of Oil Country Specialties Manufacturing Company are centrally located with reference to Mid-Continent fields, and possession of the plane places the more remote of the fields within a few hours of the factory.

XUM



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MALONEYS have our patented close-fitting "crimp" seams and joints, which are packed with our pliable gasketing and dressed with our Gaso cement. This vapor-tight construction prevents loss of gravity in stored petroleum products.

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Packed in Steel-Bound Crates for Export

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MADE OF KEYSTONE COPPER STEEL

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MADE OF KEYSTONE COPPER STEEL

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ALONE!

machine; University 1, (Sec. 13) lcn. R. E. Moore et al's Arnold 1, dr 710 ft. J. D. O'Mara et al's Byrne 1, dr 1105 ft. O. J. Perren et al's L. Peterson 1, rig. Phillips Pet. Co.'s Bowser 1, show oil 475-80 ft, dr 675 ft; Courtney-Pryor 1, elev 2951 ft, cased off oil pay 1345-75 ft, dr hfw 1840 ft. Plymouth Oil Co.'s Perry 2, elev 2899 ft, hfo and plugged back from 1858 to 1845 ft. Rio Pecos Oil Co.'s Yates 2, top salt 475 ft, sd 1360 ft. Rowan & Tong's McDonald 1, dr 180 ft. Schumaker et al's Williams 1, elev 2388 ft, sd 1271 ft. Seminole Oil Co.'s Cordova 1, machine. Shell Pet. Corp. & Kirby Pet. Co.'s University-Humphreys 1, elev 2628 ft, dr granite 5111 ft. Talbot et al's Unsicker 1, machine. Taylor-Link Oil Co.'s University 1, elev 2500 ft, top salt 835 ft, top lime 1375 ft, flowed 135 bbls oil after re-set cas 1613-28 ft; University 2, lcn. Irvin Drlg. Co. & Spikes et al's Brown 1, elev 2387 ft, top salt 740 ft, dr 2205 ft. Texas Co. & Phillips Pet. Co.'s Campbell 1, dr 410 ft. Tidal Oil Co.'s University 1, elev 2482 ft, top salt 784 ft, top lime 1270 ft, sr cas 1507 ft; University 2, machine. Transcontinental's University 1, elev 2552 ft, top lime 1035 ft and 3315 ft, dr by tools 4312 ft. R. D. Webb et al's Fee 1, dr 300 ft. C. W. Williams et al's Sanford 1, sd 1050 ft. World Oil Co.'s Kloh 1, elev 2810 ft, fsh 3105 ft; University 1, (Sec. 31) lcn; University 1-B, (Sec. 13) lcn.

PRESIDIO COUNTY — Brite Prod. Co.'s L. C. Brite 4, sd 515 ft. C. E. Miller-Delmar & Phillips Pet. Co.'s Tootle 1, sd 3503 ft.

REAGAN COUNTY—Big Lake Oil Co.'s University 1-C, elev 2731 ft, top salt 1100 ft, dr 2705 ft; University 2-C, elev 2703 ft, dr 2899 ft; University 131, showing oil 6830-6950 ft, dr hard lime 7807 ft; University 151, dr by spear, td 3035 ft.

REEVES COUNTY—Earl Hemby et al's Brooks-Huling 1, sp and sd. Southern Crude Oil Pur. Co.'s Kloh 1-A, elev 2784 ft, skid rig 100 ft west, rotary outfit. D. R. Thompson et al's Eddins 1, elev 2719 ft, top salt 1622 ft, top gray lime 3216 ft, fsh 5658 ft. Lee O. White et al's Mrs. Lizzie Hershenson 1, elev 3244 ft, sd 1530 ft.

RUNNELS COUNTY — Herbert Oil Co.'s Currie 1, sd 2150 ft. Independent O. & G. Co.'s Rollwitz 1, sr 4060 ft. Nourse & Tilton's Cramer 1, dry and abn 3971 ft.

SCHLEICHER COUNTY — McKavitt Oil Co. & Cromwell's Tisdale 1, elev 2155 ft, dr 3225 ft. Interstate Explo. Co.'s Whitten 1, sd 3545 ft. Underwood Oil Co.'s Tisdale 1, sp and sd.

SCURRY COUNTY—Camp Springs O. & R. Co.'s Quinn 2, rig. V. E. Cottingham & G. O. Briscoe's Truss 1, materials. R. B. Pender et al's Davis 1, elev 2208 ft, top salt 445 ft, sd 3105 ft. Texas Canadian Oil Co.'s Mooar 1, lcn.

SUTTON COUNTY — Phillips Pet. Co.'s Holman 1, elev 2277 ft, top lime 2317 ft, fsh 6633 ft. L. G. Priest et al's Allison 1, elev 2337 ft, had show oil 2634-40 and 3171 ft, sd 3250 ft.

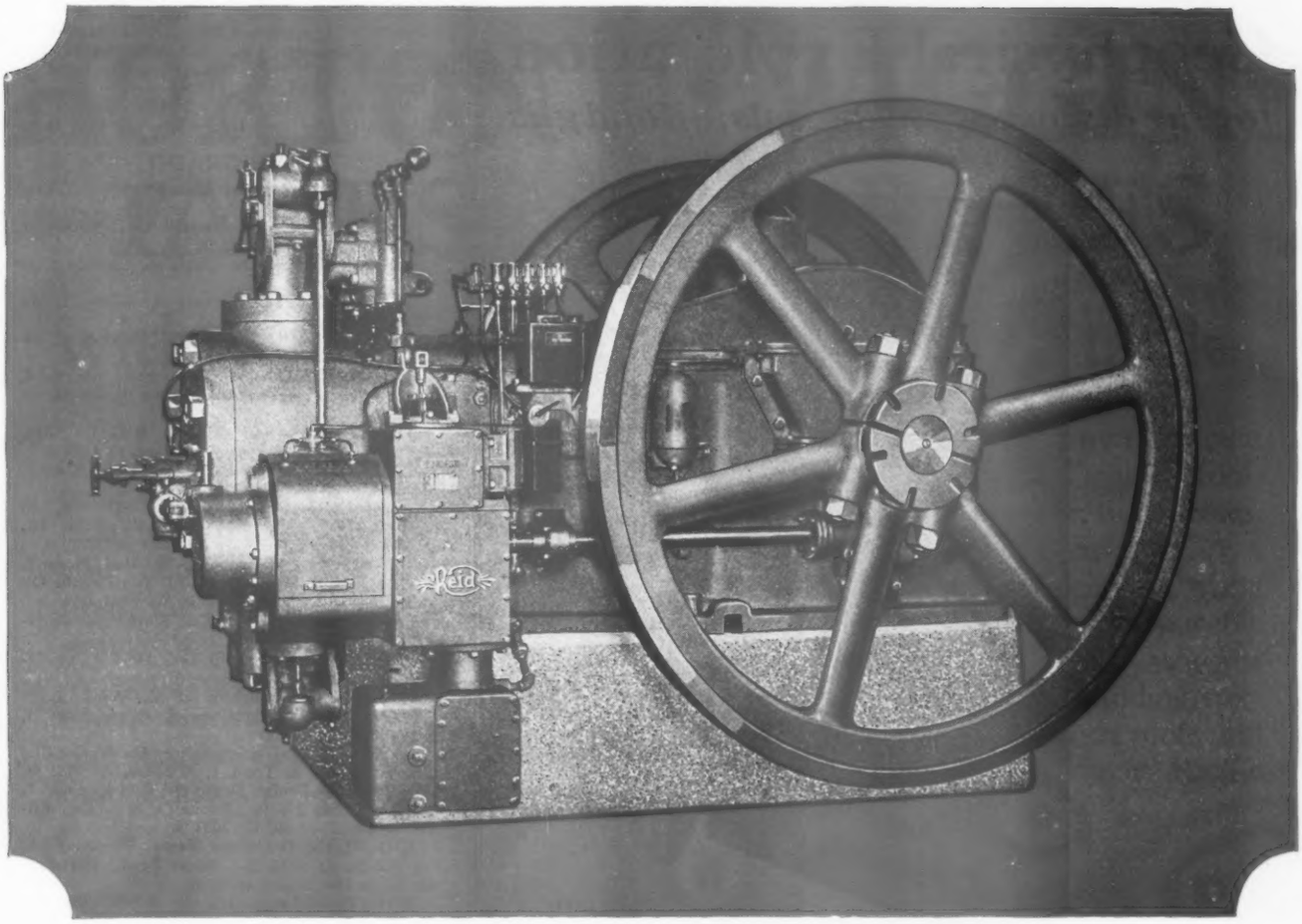
TAYLOR COUNTY—B. L. Carpenter et al's Harrison 1, lcn. J. B. Jameson et al's Webb 1, elev 1905 ft, dr 4455 ft. Magnolia Pet. Co.'s W. E. Hamner 1, dr 2915 ft. Mid-Continent Pet. Corp.'s Cody 1, lcn. C. M. Root Drlg. Co.'s Martin 1, fsh hfw 2475 ft.

TERRELL COUNTY—Big Bend Oil Corp.'s Bassett 1, dr 200 ft. Keck-Pecos Oil Trust's Hamilton 1, elev 1733 ft, sd 2510 ft. Mrs. J. B. McPhee et al's Sam Belt 1, dr 590 ft. Milham Corp.'s Bassett 1, elev 2270 ft, dr black lime 5195 ft. Wooley-Jones et al's Pankenham 1, elev 2607 ft, sd 640 ft.

VAL VERDE COUNTY—Dyer Bros. et al's Wilson 1, elev 2115 ft, sd 2920 ft. Producers Oil Co. et al's Everett 1, sd 2450 ft. Valvert Oil Corp.'s Bassett 1-A, elev 2069 ft, dr by cas 3300 ft, td 3760 ft.

WARD COUNTY — Atlantic & Delmar's Hayzlett 3, dr 400 ft. Gulf Prod. Co.'s Hutchings 2, elev 2655 ft, top salt 1240 ft, top brown lime 2250 ft, put in rotary after gas blowout 2529 ft; O'Brien 5, elev 2681 ft, top salt 1273 ft, top brown lime 2460 ft, plug back from water at 2855 ft to pay at 2610-2830 ft and flow 90 bbls oil; O'Brien 6, (Sec. 20) rotary rig; Wristen Bros. 1, top salt 720 ft, dr 1900 ft; Wristen 2, dr 485 ft. Marland Prod. Co.'s (Continental) Sealy 1, (Sec. 81, Blk. "A") lcn. Penn Oil Co. & Atlantic's Bennett 1-A, dr 200 ft. Shipley Oil Corp.'s Hayzlett 2, dr 750 ft. Tex-Oil Prod. Co.'s Redman 1-A, dr 365 ft.

WINKLER COUNTY—V. T. Bolin & Co.'s



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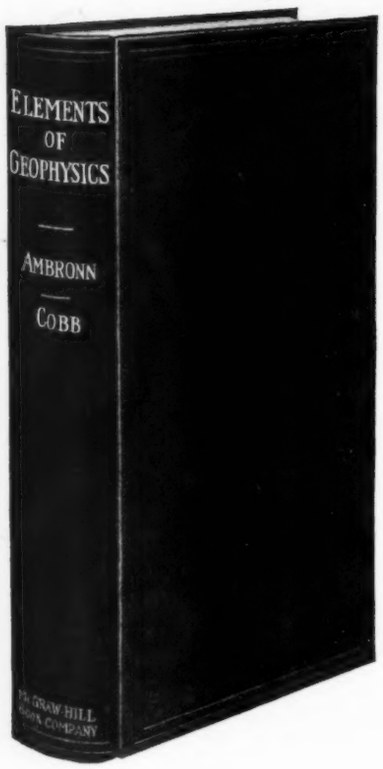

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Brown et al 2, top salt 1300 ft, sd 2425 ft. Liner Drlg. Co. et al's Campbell 1, dr 595 ft. Magnolia's Scarborough 2, top salt 1125 ft, top lime 2510 ft, re-set cas 2821 ft. Marland Prod. Co.'s Morton 1-A, rig. Shell & Llano Oil Co.'s Scarborough 7, rig. Texas-Canadian Oil Co.'s Kloh 1, sd 4008 ft.

YOAKUM COUNTY—Bert Weekly et al's Knight 1, elev 3693 ft, set 6-in cas 3300 ft.

COLORADO

ADAMS—N. M. Slatt, Hills 1, se 27-3s-64w, dr 142 ft.

ARCHULETA—Juanita Oil Co., Harvey 1, sw 4-32n-3w, stand 725 ft.

BENT—Marland Oil Co., Pipe Springs 1, se 27-29-49, dr 4324 ft.

DOLORES—Transcontinental, Glade 1, nw 30-41-16, resum 4005 ft.

ELBERT—Belmont Oil Co., Maher 1, sw 4-6s-59w, dr 3500 ft.

JACKSON—Midwest, Rich 21X, nw 9-6-8, dr 530 ft. P. & R., Henderson 1, 2-6-81, dr 1990 ft.

JEFFERSON—Ruby Hill O. & G. Co., Braden 1, se 14-4s-69w, carry 6⅝-inch at 3230 ft.

LAS ANIMAS — Parker Club & Kinney-Coastal, 4-28-68, sd 3016 ft.

LARIMER—Barrows et al., 7-11s-68w, sd 2000 ft. Five Square O. & G. Co., State 1A, sw 16-4n-69w, run 5-3/16-ich liner at 3750 ft.

LA PLATA—Royal P. & R. Red Mesa 1, 27-33-12, ready to resume at 567 ft. Detroit Oil Assn., Olbert 1, sw 9-35-12w, co 1843 ft.

LINCOLN—Kelly Oil Co., State 1, ne 36-14-57, dr 1965 ft.

MESA—High Line Oil Co., Hoel 1, ne 23-8s-104, sd 2717 ft.

MOFFAT—McLaughlin et al, Wms. 1, 2-3-91, dr 3707 ft. McCormick et al, Sales 1, se 28-4n-92, sd 35 ft.

MONTROSE—Uncompaghre O. & G. Co., Colorado Title & Trust 1, 27-50-10, dr 2055 ft.

PUEBLO—Beulah Dome Oil Co., Hedland 1, sw 7-23-57, dr 235 ft. Boone O. & G. Co., Ritter 1, nw 33-18-60, dr 3031 ft.

RIO BLANCO—White Eagle, Fordham 1A, sw 9-2-26, dr 1215 ft. Texas Prod., Potter 1, sw 30-2n-96w, ready to spud.

ROUTT—Midwest, 10, nw 4-7-86, spudded 50 ft.

YUMA—Major Pete, Black Wolf 1A, sw 7-2-43, prep to run and carry 12½-inch. Phillips Andrews 1, nw 3-2-42, dr 1370 ft.

WELD—Platte Valley Pete Corp., Patterson 1, sw 23-8n-61w, dr 4370 ft.

NEW MEXICO

CHAVES—Warman et al, 1, sw 23-13-24, sd. Transcontinental, Robbings 1, 1-14s-28e, cem 4225 ft.

DE BACA—Matador Oil Co., State 1, sw 6-4n-20e, dr 2185 ft. Pittsburgh Oil Co., 1, ne 16-1s-27e, sd 4506 ft. Transcontinental, McWhorter 1, 6-35-22e, dr out cem 4308 ft.

GUADALUPE—Hanchett Oil Co., 2, 14-8n-24e, tools lost, sd 2403 ft.

LEA—Midwest, Lane 31, sw 28-19-30, dr 1800 ft. Midwest, Capps 31, sw 3-19-38, dr 3010 ft. Midwest, Gregory 22, sw 31-25-37, dr 3015 ft. Gypsy Oil Co., Mattern 1, 24-21-36, sdtr lost tools 3580 ft. Gypsy Oil Co., Humphreys 1, sw 25-24-36, dr 2885 ft. Exploration Co., Record 1, 26-19-35, td 4556 ft. Morton et al, State 1, ne 32-11-38, fsh 1700 ft. Texas, Sheppard 1, ne 6-26s-37e, try, sidetrack tools, 3230 ft. Texas, Moberly 1, se 17-26-37, sd 3542 ft. Texas, Humphreys 1, sw 18-20-32, dr 2900 ft. Cranfill & Reynolds, Meyer 1, sw 22-24-36, dr 1795 ft. Cranfill & Reynolds, State 1, se 2-21-33, dr 1400 ft. Crutis Dr. Co., Nixon 1, 22-18-24, sd 1200 ft. Empire, Glosson 1, se 6-22-36, dr 2795 ft. Vacuum Oil Co., 1, 14-17-34, compl. 250-bbl well. Pueblo Oil Co., Lee 1, ne 34-17-29, dr 1100 ft. Ohio Oil Co., Prince 1, 7-19-39, rigged. Ohio Oil Co., State 1, 9-13-38, rig. Ohio Oil Co., McGeorge 1, nw 30-20-33, dr 400 ft. Empire-Henderson et al., Martin 1, ne 28-20s-33e, dr 3410 ft. Buell & Hagen, State 1, ne 13-11s-35e, dr 1665 ft. Marland, Flint 1, se 29-20s-34e, dr 2090 ft. Marland, McAllister 1, se 24-26-36, dr 1020 ft. Marland, Wells 1, ne 11-25-36, dr 270 ft. Shepp Pete Corp., Terry 1, ne 22-19-38, dr 1400 ft. Humble O. & R. Co., Lindley 1, 23-25-36, dr 1700 ft. Humble, Bowers 1, 30-15-38, dr 295 ft. Cook et al, State 1, ne 12-21-33, repairs at 710 ft. Rector Oil Co., King 1, sw 27-25s-32e, dr 765 ft.

McKINLEY—J. W. Halsell, Santa Fe 1, 17-19-9, stand 2050 ft. San Juan Coal & Oil Co.

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with any roof

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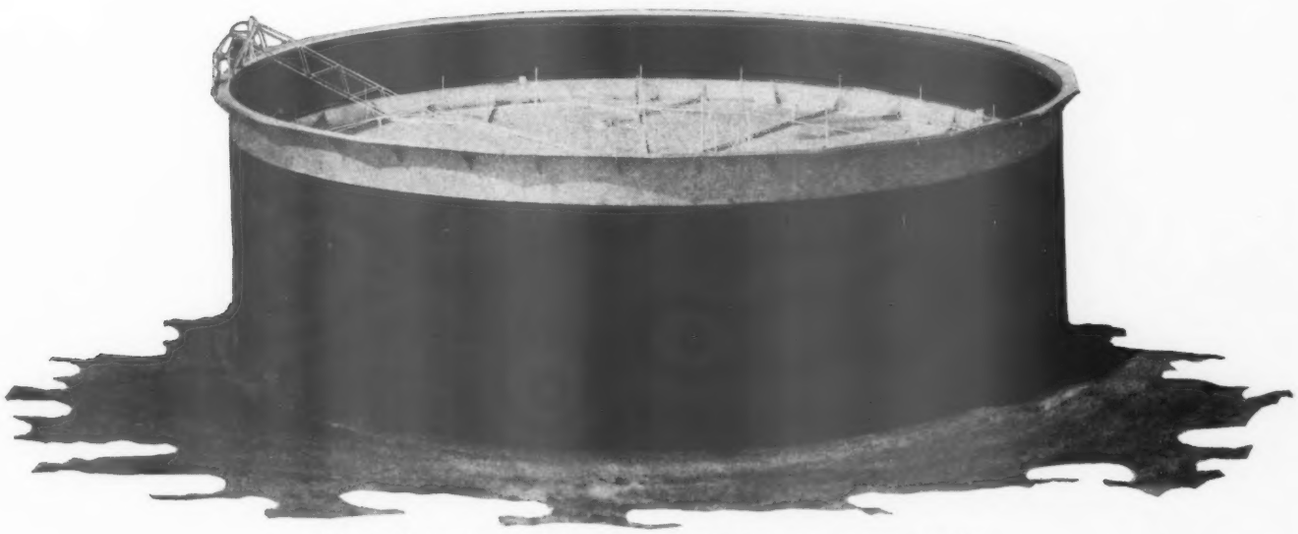

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XUM

1, se 27-18n-9w, dr 2110 ft. Williams et al, A. T. S. F. 1, sw 19-18n-8w, dr 160 ft.

ROOSEVELT—J. T. Keegan et al., Pepper 1, 6-1s-36e, ready to spud. Smith & Sloan, Lovern 1, se 4-3s-35, dr 297 ft.

RIO ARRIBA—Berringer et al, Hartman 1, ne 8-29-7, dr 600 ft.

SAN JUAN—Dorothy Oil Co., 29-30-9, co 635 ft. Kutz Canon O. & G. Co., Day 1, 20-28-10, ur, td 825 ft, hfw. Blackrock Oil Co., 1, sw 11-25-13, sd 1550 ft. Iowa Oil Synd., Viles 1, 28-29-11, sd 694 ft. Angel Peak Oil Co., Kutz Canon 1, 11-28n-11w ,fsh bailer 3100 ft. Greathouse et al, Roderick 1, sw 11-22-14, dr 670 ft. Childers Dr. & Pr. Co., Westwater 2, nw 24-31-18, fsh. Reserve Oil Co., Shaffer 2, ne 1-21-14, dr 500 ft.

SAN MIGUEL — Pioneer O. & G. Co., Thunderbird 1, nw 14-15-16, dr 1900 ft. Starr Oil Co., Adams 1, ne 25-17-16, td 660 ft.

SOCORRO—Arnold et al, 2, ne 13-6-1, sd 1975 ft.

TORRANCE—Bluhall O. & G. Co., 20-6-10, stand 1800 ft. Sinnock et al, Kutchin 1, ne 13-7-7, td 197 ft, crooked hole. Williams et al, Staplin 1, ne 16-8n-10w, prep to spud.

VALENCIA—Rio Puerco Oil Co., N. M.-Ariz Land Co. 2, nw 13-6-2, wait pipe 3145 ft. Acme Oil Co., N. M.-Ariz Land Co., 1, 26-6-3, hfw at 3800 ft, to run 5 3/16-inch.

MONTANA

BROADWATER—Signal Hill O&G Co., nw 7-3n-1e, fsh 2140 ft.

CARBON—Ohio Oil Co., Northern Pacific 2, 11-7s-21e, cem 12½-inch cas at 1975 ft.

CASCADE—U. S. Pete Co., Miller 1, 8-21-4w, to test showing at 1100 ft. Lone Star, 13-21-3e, reaming. Eden O. & G. Co., sw 27-18-4e, dr 1270 ft.

CHOTEAU—California Synd., Walker 1, ne 18-23-6e, dr below 1350 ft. Tip O'Neil, nw 16-25-5w, rig up.

FERGUS—Melton Corp., sw 24-21n-17e, wtg for tools.

GALLATIN—California Co., Ringling 1, 35-5n-7e, ur and co 1038 ft.

GLACIER—Jos. Drumheller et al, Yunck 1, nw 1-34-6w, dr 850 ft.

HILL—A. H. Perkins, Brown's Coulee 1, nw 32-34-14e, rig.

LIBERTY—Sunburst O. & R. Co., Bear's Den 1, nw 17-36-6e, good showing oil at 2410 ft. Square Deal Pete Co., Johnson 1, se 1-32-7e, ur 8¼-inch to fish at 3365 ft. Western Natural Gas Co., Townsend 2, 22-37-4e, spd. Cypress Pete Co., 36-28-6e, run cas to shut off gas at 2689 ft.

LAKE—Missoula-Flathead Oil Pools Co., nw 31-21-20, making repairs.

PHILLIPS—Big Dome O. & G. Co., Bloomberg 1, ne 1-32n-32e, run cas 2455 ft.

PONDERA—Miller Bros., Bruins 1, ne 17-28-1w, rig.

SWEETGRASS — Shoshone Consolidated 1, 23- 2n-15e, dr thru coal seam at 5130 ft.

STILLWATER — H. F. Stewart, 5-2n-22e, ream 3208 ft to set casing at 3316 ft. Carter Oil Co., Six Shooter 1, 17-3n-19e, mvg in material.

TETON—Texas Pacific Coal & Oil Co., se 15-25-1w, dr 1740 ft. Ohio Oil Co., nw 16-24-2w, spudded.

TOOLE—Monalta Oil Co., Ltd., Buckley 1, 1-37-4w, sd 1465 ft. Jones Oil Co., Mangnell 1, nw 32-34-14e, dr 450 ft. Anaconda Pete Co., ne 19-36-2e, dr 380 ft. J. H. Adams, Keil 1, 29-29-1w, dr 1000 ft. Mahan et al, Lee 1, 10-31-1w, ur 1900 ft.

WYOMING

ALBANY—Midwest Refining Co., Diamond Anticline, se 6-20-77, dr 200 ft.

BIG HORN—P. & R., Hill 1, 7-57-97, cemt at 607 ft. P. & R., Rand 1, 7-57-97, test gas and oil show at 2860 ft. P. & R., 3, 24-56-98, dr 3470 ft. Ohio Oil Co., Easton 1, 36-56-97, dr 2004 ft. Cody Pete, Wilcox 1, 27-57-97, sd 1320 ft.

CARBON—P. & R., 2-19-88, redr 3936 ft, td 4003 ft. C. E. Bivins et al, Baggs 1, 35-13-92, resume at 1005 ft.

CONVERSE—Criterion Oil Co., ne 5-31-70, dr 3300 ft.

FREMONT—P. & R., Muskrat 1, 33-34-92, 15½-inch cem at 380 ft. P. & R., Muskrat 1, 1-33-92, cem 15½-inch at 350 ft. Kinney-Coastal, 22-3-1, 10-inch set at 2840 ft. Texas Prod. Co., State 1, 36-34-95, spudded 85 ft.

HOT SPRINGS—Texas Prod. Co., sw 23-45n-100w, dr 2755 ft. Midwest Ref. Co., 8, 6-44-98, rigging. C. F. Robertson et al, se 17-43-92, spudded. Hebo Cons., se 23-44n-95w, moving in.

LINCOLN—Midwest Ref. Co., Waterfall 1, 35-22-115, dr 3695 ft. Midwest Ref. Co., Grey's River 1, 25-37-117, dr 1000 ft. B. E. Taylor et al, 14-24-113w, 15½-inch at 105 ft.

NATRONA—Prairie O. & G. Co., Baird 1, 22-31-81, hfw 1600 ft, dr ahead.

PARK—P. & R., Pitchfork 1, 14-48-102, stand with 15½-inch at 1173 ft. Midwest, Rosenburg 36, nw 25-58-98, dr 2896 ft; Rosenburg 1, 26-58-98, spudded 70 ft. Resolute Oil Co., nw 17-57-101, resume 2155 ft. Henderson Prod. Co., 31-58-99, second sand dry, will deepen. Cody Pete, 21-57-98, location. Ostland et al, Hoodoo 1, 23-51-102, resumed. Ohio, Burlington 1, 21-53-101, dr 200 ft. Montana Wyoming Pete Co., 28-58-98, mvg in.

SWEETWATER — Mtn Fuel Supply Co., Tucker 1, 18-13-99, cem 8¼-inch at 2480 ft. Mtn Fuel Supply, Humphreys 1, 2-12-101, fsh 4030 ft. Mt Fuel Supply, Otto Arnold 1, 24-19-104, dr 3342 ft. Mtn Fuel Supply, Newberger 1, 13-12-101, dr 1500 ft. P. & R., 26-20-104, abn 4100 ft. Vermillion Oil Co., sw 16-12-100, prep to resume at 620 ft.

SUBLETTE—California Co., Wyss 1, 12-32n-115w, dr 2150 ft.

UINTA—California Co., U. P. 1, 7-17n-119w, fsh lost tools 3183 ft.

WESTON—Wyo Drlg Synd., 15-44-64, successfully sdtr casing, td 4350 ft. Gose Synd., 28-47-64, prep. to resume at 4855 ft.

TEXAS GULF COAST

Completions

BRAZORIA COUNTY—
Humphreys Corp., Bryan 1, Bryan Heights . ..... * 3710

GOLIAD COUNTY—
Humble, Taylor 1, 5 mi n Goliad... * 1150

AUSTIN COUNTY — Whittington et al's Lass 1, 4 mi nw Bellville, dr 612 ft.

BRAZORIA COUNTY—Humphreys Corp.'s Bryan 1, Bryan Hts., abn salt 3710 ft. Empire's Brock 3, Stratton Ridge, dr 4560 ft sand and lime. Thos. Faust et al's Fee 4, 2 mi s Nash Dome, dr 1000 ft shale and lime.

CHAMBERS COUNTY — Pure's Mayes 2, Lost Lake, dr 2060 ft sand; Mayes 3, Lost Lake, dr 2025 ft sand and shale. Layne et al's Fitzgerald 1, 1 mi s Barbers Hill, dr 1765 ft gbo.

COLORADO COUNTY — Merrett et al's Zverck 1, 2 mi e Ellinger, dr 542 ft shale. Rich Oil Corp.'s Von Rosenberg 2, 2½ mi w Alleyton, dr 2540 ft sand. Shell's Hennecke 1, Bernado, dr 1332 ft sand. The Texas Co.'s Sears 1, Cat Springs, dr 1215 ft shale.

FAYETTE COUNTY—Moore et al's Kerr 1, Muldoon, dr 2485 ft. W. J. Kelley et al's Burke 1, 2 mi nw Flatonia, sd 490 ft. Magnolia's Gully 1, 4 mi n Fayetteville, ru. National Oil Co.'s Hunger 1, 8 mi sw La Grange spudded.

FORT BEND COUNTY—Humble's Miller 1, 3½ mi w Rosenberg, dr 3867 ft shale and lime. Gulf's Trone 12, Long Point, dr 1275 ft gbo. Grayburg Oil Co.'s Ransom 1, s Richmond, ru.

GOLIAD COUNTY—Humble's Taylor 1, 5 mi n Goliad, abn 1145 ft. Mission Drlg. Co.'s Ray 3, Pettus, dr 960 ft.

HARDIN COUNTY—Gulf Coastal Oil Co.'s Nona Mills 1, 5 mi e Saratoga, sd 1725 ft.

HARRIS COUNTY—Humble's Simms-Smith 75, Goose Creek, dr 4805 ft sand; Warren 5, Hockley, dr 4864 ft cap rock; Irvin 2, Mykawa, dr 1685 ft; Woodburn 1, 2 mi s Genoa, dr 3606 ft shale. Paxton & Pundt's Brown 1, sd 1900 ft. Little York Oil Co.'s Davis 1, Little York, dr 4020 ft shale.

JEFFERSON COUNTY — River Oil Co.'s Ship Channel Ld. Co. 1, 2 mi se Beaumont, sd 1710 ft. Gulf's Burrell 3, Fannett, lcn. Westbury Oil Co.'s West 1, dr 1252 ft gbo. Bleakie Oil Co.'s Tolliver 1, 2½ mi nw Voth, dr 2743 ft gbo. Vacuum Oil Co.'s J. E. Broussard 1, 9 mi se Fannett, ru. Shell's Heisig 1, 2 mi n Hamshire, dr 5385 ft sandy shale. Nederland O&G Co.'s Young 1, s Nederland, washing to bottom.

LIBERTY COUNTY—Humble's Sterling 5, Moss Bluff, dr 3920 ft sandy lime. Pure's Liberty Investment Co. 1, n side Moss Bluff, dr 1260 ft gbo. Republic Prod. Co.'s Mysilvec 1, 2 mi s Hardin, dr 4580 ft shale and lime. Gulf's Boyt 2, Hankamer, dr 1155 ft gbo. Ft. Bend Oil Co.'s Bladerack 1, N. Dayton, dr 4630 ft shale. Sun Oil Co.'s Kovaleik 2, N. Dayton, dr 5228 ft rock. Harrison Oil Co.'s Quintette 4, N. Dayton, dr 1035 ft gbo. Harvey S. Smith's Moore's Bluff Corp. 1, 4 mi s Stilson, ru.

MATAGORDA COUNTY—Crossland et al's Hawkins 1, Shepherds Mott, dr 4715 ft shale. West Prod. Co.'s Meyers 1, 1¼ mi n Gulf Hill, 4735 ft.

ORANGE COUNTY—Veteran Oil Co.'s Reed 1, 2 mi se Orange field, 4475 ft. The Texas Co.'s Stark 1, Port Neches, bldg dk; Polk 1, Port Neches, bldg dk foundation.

VICTORIA COUNTY—Humble's Welder 1, 3 mi se Nursery, dr 2969 ft shale.

WALLER COUNTY — Kirby Pet. Co.'s Vaughn 1, San Felipe, dr 1700 ft gbo.

WASHINGTON COUNTY—Thomas et al's Giddings 1, 4 mi e Brenham, dr 2205 ft gbo. Fuchs et al's Torn 1, 14 mi sw Brenham, dr 760 ft sand. W. D. Anderson et al's Rubenstein 1, 4 mi se Gay Hill, dr 600 ft shale. Kellett et al's Carter 1, dr 1255 ft. Brains et al's L. S. Smith 1, 4½ mi ne Gay Hill, dr 360 ft sand. Dekle et al's Calhoun 1, 4 mi e Quarry, sd 800 ft.

WHARTON COUNTY — Hearte Oil Co.'s Brown 1, 5 mi s El Campo, dr 2623 ft shale.

SOUTHWEST TEXAS

Completion

GUADALUPE—
Trinity Drillers, Weinang 1 ..... * 2575

BASTROP COUNTY—Livingston et al's McCall 1, 1 mi s Bastrop, fsh 2910 ft. Howell et al's Weckham 1, 2 mi s Paige, dr 1320 ft gbo. Nelson et al's Rundas 1, 7 mi s Smithville, r 745 ft. Harper et al's Mitchell 1, Bastrop townsite, dk.

CALDWELL COUNTY — Harper et al's Miller 2, 1 mi w Lytton Sprgs., sd 1640 ft. Detex Oil Co.'s Keefer 1, 4 mi w Luling, dr 1075 ft shale. Radcliff et al's Cardwell 1, 4 mi n Lockhart, dk. W. H. Ford's Forrester 1, 1 mi w Lytton Sprgs., sd 1525 ft.

DUVAL COUNTY—The Texas Co.'s Hyatt 1, near Driscoll ranch, ru.

GONZALES COUNTY—Joe Brunner's Miller 1, 1 mi n Waelder, sd 2710 ft. Crown Pet. Co.'s Hattenbach 1, 8 mi sw Sample, sd 2350 ft. Fort Bend Oil Co.'s Hamm 1, 2½ mi e Harwood, dr 2615 ft sand.

GUADALUPE COUNTY—Miller Bros.' T. A. Springs 1, 5 mi e Seguin, sd 2654 ft. Trinity Drillers' Weinang 1, 4 mi s Kingsbury, abn 2575 ft. The Texas Co.'s Dallas Wilson 1, 12 mi e Seguin, dr 2320 ft. Walton et al's Nolte 1, 2 mi se Seguin, dr 1715 ft chalk. Sinclair's W. E. Tewes 1, 1 mi n New Berlin, set surface cas at 50 ft.

MAVERICK COUNTY—Rycade's Chittim 3, 20 mi e Eagle Pass, dr 4100 ft; Chittim 4, 20 mi e Eagle Pass, 3305 ft; Sullivan 4, 20 mi e Eagle Pass, dr 3400 ft. The Texas Co.'s Bandera Co. Ld. 1, 15 mi e Eagle Pass, ru.

STARR COUNTY — The Texas Co.'s Virginia Guerra 3-A, Roma, dr 3838 ft shale.

SOUTH LOUISIANA

Completion

POINTE COUPEE PARISH—
Miller et al, Kornbacker 1 ..... * 1925

ACADIA PARISH — Yount-Lee Oil Co.'s Houssiere-Latrielle 7, Evangeline, ru; Crowley O. & M. Co. 4, Evangeline, dr 7565 ft sand and shale; Crowley O. & M. Co. 5, Evangeline, lcn.

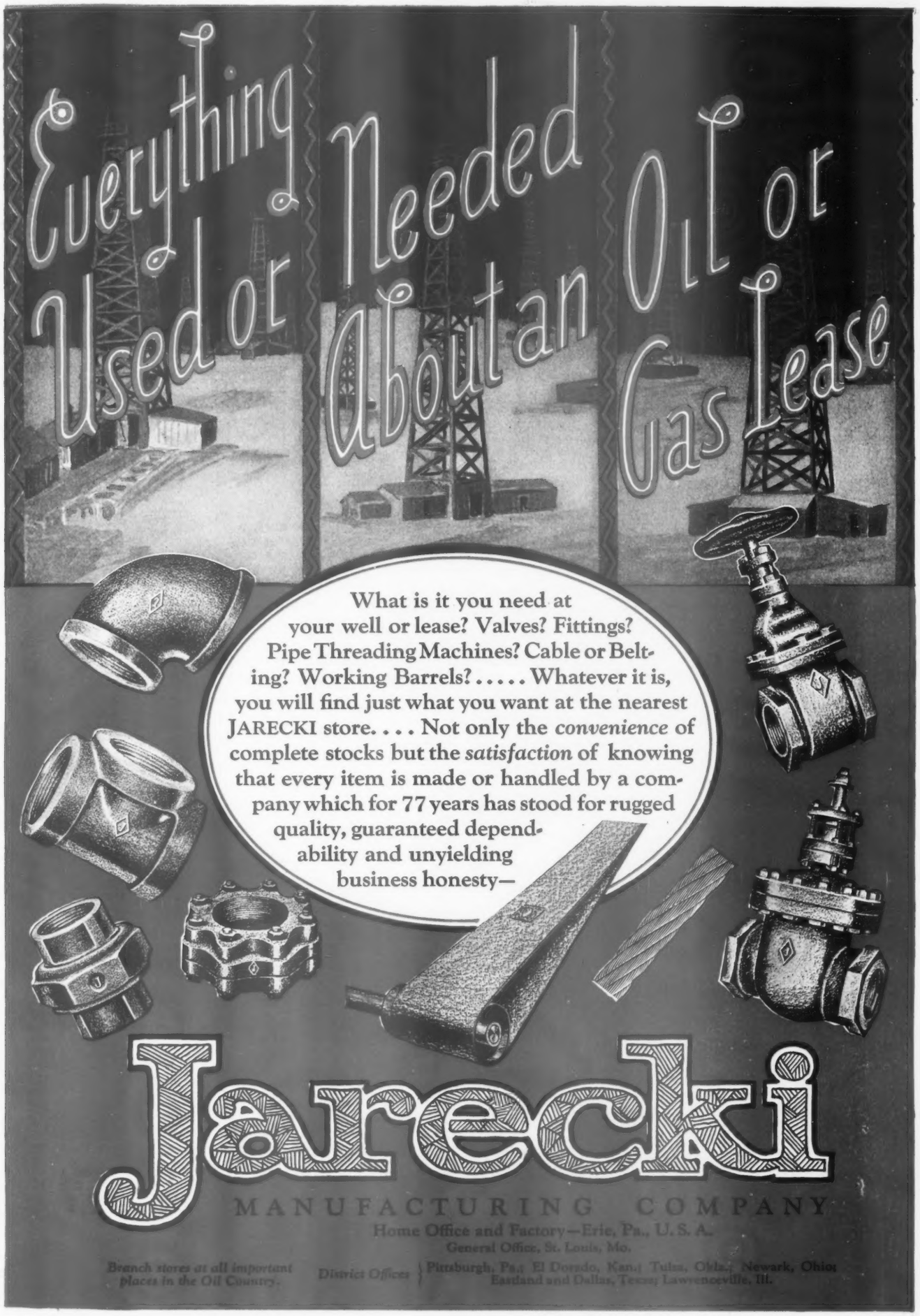
ASCENSION PARISH—Gulf's United Land Co. 15, Sorrento, dr 400 ft. Triumph Oil Corp.'s J. D. Lacey 2, 3 mi se Sorrento town, dr 3080 ft gbo. Big Dome Drlg. & Dev. Co. & J. S. Kimbrough's Rearwood 1, Darrow, dr 4750 ft sand. Pickhard & Geisman's Breaux 1, 32-10s-2e, dr 3090 ft water sand.

CALCASIEU PARISH—J. O. Davis' Mimms 1, Lake Charles, dr 5551 ft gbo, lime.

CAMERON PARISH—The Texas Co.'s Calcasieu Lake B-5, E. Hackberry, bldg dk foundation; Calcasieu Lake A-4, S. Calcasieu Lake dome, lcn. Pure's Yount-Lee 7, Sweet Lake, dr 5660 ft shale. Shell's Watkins 11, Black Bayou, sd 1260 ft; Watkins 12, Black Bayou, bldg dk foundation.

IBERIA PARISH — The Texas Co.'s Vermilion Bay A-4, lcn. Gulf's State Z-10, Loreauville, dredged canal.

IBERVILLE PARISH — Shell's Wilbert 3,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White Castle, set cas at 5610 ft. Standard of La.'s Wilbert 3, Bayou Blue, ru; Schwing 2, Bayou Blue, set surface cas; Schwing 3, Bayou Blue, capping piling; Schwing 5, Bayou Blue, dk.

LA FOURCHE PARISH—Gulf's Stark 14, Thibodaux, moving in material; Stark 15, Thibodaux, sd 1300 ft; Stark 12, Thibodaux, dr 1395 ft lime rock.

PLAQUEMINES PARISH—Gulf's Morris & Rose 1, Spanish Pass, dk. The Texas Co.'s Garden Island Bay 2, foundation; Humble's State Land 1, Sec. 2-20s-26e, moving in rig; Humble's Lake Washington 1, T 20s, R 26e, lcn.

ST. BERNARD PARISH—Gulf Coast O. & G. Dev. Co.'s State Ld. 1, Sec. 15-14s-15e, sd 710 ft.

ST. LANDRY PARISH—The Texas Co.'s Botey Bay 2, Port Barre, preparing to dd. Gulf's Gaudet 1, Port Barre, dr 4025 ft cap rock.

ST. MARTIN PARISH—The Texas Co.'s St. Martin Ld. Co. 1, Hager dome, sd 1235 ft. St. Martin Ld. Co. Fee 2, Hager dome, sd.

TANGIPAHOA PARISH—Joan Dev. Co.'s Lake Superior Piling Co. 1, Section 20-5s-9e, sd 3985 ft. Completion Oil Co.'s Amos 1, dr 1840 ft.

TERREBONNE PARISH—The Texas Co.'s Taylor Bayou B-1, 28-21s-14e, dr water well; Bay Coon Road B-2, 17-22s-18e, lcn; Bay Coon Road B-3, 17-22s-18e, lcn; Lake Barre A-2, 30-21s-20e, dr water well; Lake Pelto B-1, 8-23s-18e, tested 50,000,000 ft gas at 1270 ft, will dd; Four Isle Bayou B-1, 23-21s-16e, dr 730 ft cap rock; Timbalier Bay A-1, 19-23s-20e, dr 2550 ft sand and shale; Dog Lake Bayou B-1, 6-22s-16e, waiting on rig; Dog Lake Bayou B-2, 5-22s-16e, lcn.

ALABAMA

Company, Well and Location	Initial Production Bbls.	Depth
CHOCTAW COUNTY—		
Robinson-Greer, Long-Bell Lbr Co. 1	*	4020

CHOCTAW COUNTY — Robinson-Greer's Long-Bell Lbr. Co. 1, 28-10-4, dry abn in sand and shale, td 4020 ft. Gulf Ref. Co.'s Thornton 1, 21-9-2, dr 500 ft.

LAMAR COUNTY—Briggs & Knapp's Wefel 1, 25-12-14, dr sandstone 600 ft.

LAWRENCE COUNTY — Peerson Drilling Co.'s Jacobs 1, 11-7-7, dr 165 ft.

MARION COUNTY—P. J. McAlpine's Clark 1, 29-11-14, lcn.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, dr 650 ft. Hobson Bros. 1, 9-8-2, sdtr 8-in cas 600 ft. Oscar Brown's U. S. Land & Cotton Co. 1, 26-3-2, no report.

TENNESSEE

DECATUR COUNTY—Standard Oil Co. of La.'s Wyatt 1, str crooked hole, td 1260 ft. Chester County O. & G. Co.'s Montgomery 1, dr 1100 ft.

MISSISSIPPI

ALCORN COUNTY—Alcorn Pet. Co.'s Matthews 1, 14-2-7, sd 1982 ft.

CHICKASAW COUNTY—Hightower & Golson's Fleming 1, 20-13-13, cleaning to bottom, td 1100 ft.

CLAIBORNE COUNTY—Ben White's Old Hen 1, 36-10-4, fsh cas 1970 ft.

HINDS COUNTY (JACKSON DIST.)—Mrs. Ella Rawls Reeder's State Land 1, 25-6-1, sd 2825 ft. Hennessey et al's Riverside 1, 23-16-5, arr resume dr 105 ft.

HUMPHRIES COUNTY—Steel et al's Love 1, 30-14-3, sd 60 ft.

LAFAYETTE COUNTY—Collette et al's Fee 1, 22-10-1w, lcn.

LAUDERDALE COUNTY (MERIDIAN DIST.) — Meridian Nat. Gas Co.'s Mattie Houser 1, 33-8-18, sd in snd 1668 ft. Lauderdale O. & G. Co.'s Lackey 1, 2-7-16, sp. J. R. Smith Oil Co.'s Craig 1, 2-6-14, dk.

LINCOLN COUNTY (BROOKHAVEN DIST.)—Miss. Land & Oil Co.'s Pat Case 1, 21-8-6, sd 30 ft.

LEE COUNTY—Lee County Pet. Co.'s Hickman 1, 12-8-6, sd 920 ft.

MONROE COUNTY (AMORY DIST.)—Amory Pet. Co.'s Hall 1, 8-13-17, arr resume dr 3045 ft. Amory Dev. Co.'s Bourland 1, 2-13-19, dr black limestone 2565 ft. Amory Nat. Gas Co.'s Carter 1, 17-13-17, cleaning out 2425 ft, td 2592 ft. Ark. Nat. Gas Corp.'s Rye 1, 22-15-17, tested water 3376 ft, arr set cas 3414 ft. Park Bowser's Cowart 1, 2-12-19, arr resume with drive pipe.

WARREN COUNTY (VICKSBURG DIST.)—El Dorado Oil Co.'s Dornbusch 1, 8-18-5, dr gumbo 520 ft.

WEBSTER COUNTY—Cumberland Oil Co.'s Henley 1, 15-21-11, sd 1865 ft.

YALABOUSHA COUNTY (WATER VALLEY DIST.)—Philp Bros.' James 1, 20-11-5w, dr 2680 ft.

KANSAS

STEPHENS COUNTY — Trees Oil Co.'s Candy 1, sw ne sw, 3-35-38w, td 500 ft, moving in rotary.

SUMNER COUNTY — Davidson et al's Strickland 1, sw ne, 12-35-1w, rig.

STEPHENS COUNTY — W. Sidwell et al's Kelly 1, sw ne, 16-34-38w, sd 1310 ft.

BARBER COUNTY — Skennly's Temple Ranch 1, sw ne, 13-34-15w, rig.

HARPER COUNTY—Slick's Unknown 1, se c, 13-34-5w, rig.

SUMNER COUNTY — Morgan & Carey's Hawkins 1, sw se, 9-34-1e, fsh 800 ft. Mid-Continent's Clark 1, se c, 31-34-3w, rig.

BARBER COUNTY — Barbara Oil Co.'s Angel 1, c nw ne, 14-33-13w, dr 4484 ft. Robertson et al's Powell 1, c se se, 11-32-6w, rig.

HARPER COUNTY — Slick's Thompson 1, nwc 10-32-6w, rig.

COWLEY COUNTY—J. B. Markey's Tatum 1, se sw, 11-31-6e, sd 500 ft. Marland's Hiatt 1, sw ne, 8-31-6e, dr 3050 ft, 8-in cas 3045 ft.

BARBER COUNTY—Allison & Fitzwilliams' Morrise 1, c nw se se, 9-30-12w, Topeka 3000 ft, ur 8-in cas 3380 ft.

COWLEY COUNTY — Landon & Slick's Daniels 1, ne se, 6-30-5e, ru.

KINGMAN COUNTY—Gypsy's Kincaid 1, ne nw, 18-29-5w, dr 4090 ft lime.

SEDGWICK COUNTY — Johnson & Marshall's Roy 1, c ne se sw, 23-29-1w, dr 1953 ft. Lario Teachoiff 1, ne sw, 27-19-1w, dr 1729 ft. Sullivan et al's Shelly 1, c nw ne se, 32-29-2e, dr 3230 ft.

BUTLER COUNTY—Empire's Parks 1, ne nw, 36-29-4e, rig.

PRATT COUNTY — Jones & O'Haver's Lunt 1, csw nw, 15-28-14w, fsh cas 2540 ft.

SEDGWICK COUNTY—Marland & Amerada's Sensroth 1, nwc 25-28-4w, ru. Hartman & Skaer and Carter's Hutchinson 1, c se se sw, 23-28-2w, sandy lime, 4220-34 ft, sd 4235 ft. Magnolia's Wise 1, nwc, 36-22-1w, show oil 3825-38 ft. Kellar & Lewis' Buckles 1, nw se 3-28-1w, dr 975 ft. Kyle et al's Pinney 1, c sw nw se, 29-28-1w, sp and sd. Shawver et al's Scott 1, c se sw sw, 10-28-1e, td 3040 ft, 6-in cas parted. LaFont et al's Carlton Bros. 1, c se se sw, 24-28-1e, dr 1880 ft.

KIOWA COUNTY—Wilcox O. & G. Co.'s Woodward 1, nec, 35-27-17w, Topeka 3325 ft, sd 3747 ft.

SEDGWICK COUNTY — Prairie-Slick's Rosenhagen 1, c sw se ne, 33-27-4w, dr lime 3935 ft. Miller & Wentz's Shaeffer 1, nw ne, 9-27-2w, dr 3180 ft. Hammond & Stout's Roeder 1, sw nw, 23-27-2w, dr 2275 ft. Blankenship & Washoma's Tuttle 1, sw nw, 1-27-1e, Wx 3397-3410 ft, hfw, pb chat 2988 ft.

RENO COUNTY — Austin Drlg. Co.'s Strickey 1, swc nw, 12-26-5w, dr by tools 2550 ft.

SEDGWICK COUNTY—Washabaugh's Harrison 1, c nw ne ne, 3-26-2w, dr 1453 ft. Boyle et al's Sandusky 1, c nw ne se, 34-26-1w, ru. Kroder et al's Harden 1, sw nw sw, 20-25-1e, sd 110 ft. Simmons & Canary's Scott 1, ne nw ne, 22-26-1e, dr 2500 ft. Burnett's Davidson 1, c nw nw sw, 27-26-1e, sd 2668 ft. Twist et al's Armstrong 1, ne nw, 28-26-1e, sp and sd. Producers Oil Co.'s Jones 1, c sw ne se, 31-26-2e, hfw, 335 -75 ft, sd 3505 ft.

BUTLER COUNTY—Arkansas Nat. Gas' Campbell 1, sec, 9-28-3e, rig.

SEDGWICK COUNTY—Empire's Henderson 1, swc, 35-25-4w, dr 3630 ft. Connell & Slick's Mahannan 1, c ne se se, 3-25-1w, hfw 3563-86 ft, sd. Twist et al's Joseph 1, 4-25-1w, sd 1980 ft. Morgan et al's Corn 1, sw ne, 28-25-1w, hfw, 3780-3825 ft, dry and abn.

BUTLER COUNTY—White Eagle's Bacholder 1, sw c, 17-25-3e, dr 2270 ft.

RENO COUNTY—Skelly's Birkett 1, ne sw, 30-34-7w, dr 540 ft.

HARVEY COUNTY—Independent & Reserves' Moulds 1, c ne, 7-24-1w, dr 1980 ft. Jolly & Ogg's Randall 1, nec, 11-24-1w, sd 3444 ft, base lime 3388 ft. Patton et al's Buning 1, cse sw ne, 18-24-2e, hfw 3365 ft, dr 3450 ft.

BUTLER COUNTY — Crawford et al's Thompson 1, nw sw, 2-24-3e, dr 1205 ft. Shell's Thiesstein 1, c se sw se, 10-24-3e, water 2894-2904 ft, sd 2990 ft. Smith & Ash's Donnelly 1, nec, 8-24-6e, td 3138 ft, dry and abn.

HARVEY COUNTY—Rosenthal et al's Ingalls 1, c nw sw, 24-33-3w, dr 2540 ft. McCulloch's Prouty 1, nw sw, 3-23-1w, fsh 2020 ft. Jolly & Ogg's Hupp 1, se ne, 22-23-1w, sd 3220 ft. Margaret Gay Oil Co.'s Grouse 1, nw ne nw, 29-33-1w, sd 3012 ft.

HODGEMAN COUNTY—Phillips' Houseman 1, c nw ne ne, 30-22-22w, rig.

RENO COUNTY—Perry et al's Oswald 1, ne ne se, 30-22-5w, dr 3955 ft. Prairie & Slick & Connell Oil's Gatz 1, nw se, 30-22le, base lime 3261 ft, hfw 3381-84 ft, dr 3424 ft.

PAWNEE COUNTY—F. C. Troupe's Lovett 1, cel ne ne, 31-21-16w, sd 1560 ft.

McPHERSON COUNTY—Ted Washabaugh's Vosshell 1, ne ne, 9-21-3w, fsh bailer 3302 ft. Helmerich & Payne's Rosen 1, c ne se sw, 23-21-2w, dr 2700 ft. Helmerich & Payne's Klassin 1, se ne ne, 14-11-1w, dr 730 ft.

MARION COUNTY — Holworth et al's Skiles 1, se nw nw, 30-21-3e, dr 2425 ft.

RICE COUNTY — Niggins & Steinbuble, Shurr 1, ne sw, 21-20-10w, dr 2610 ft.

McPHERSON COUNTY — Slick-Pryor & Lockhart, Gratten 1, c ne nw nw 34-20-3w, dr 1840 ft. McPherson's Reitz 1, nw se sw 1-20-2w, sd 2960 ft., CD T Chat 2935 ft. Tatlock et al's Meyer 1, c sw sw ne 32-20-1w, sd 2995 ft. Lario's Diener 1, se sw 10-19-1w, lcn.

RUSH COUNTY—Danciger O. & R. Co.'s Pinonka 1, c ne sw ne 17-19-17w, fshg 3540 ft.

MARION COUNTY—Skelly's Hehl 1, nw ne 11-20-4e, dr 1800 ft.

RICE COUNTY — Allison & Fitzwilliams' Poland 1, ne sw ne 36-19-8w, cellar. Millmack's Cain 1, se 29-19-7w, rig.

McPHERSON COUNTY — McPherson Decker 1, c se 11-19-2w, UR 8-in cas, 2840 ft. McPherson's Chindberg 1, c nw nw 18-19-2w, dr 2535 ft. Perry et al's Wade 1, c se 20-19-4w, lcn.

MARION COUNTY—Moore et al's Miller 1, nec 26-19-1e, base lime 2995 ft., dr 3170 ft. Empire's Sclly 1, c sw ne ne 28-19-2e, show oil and water, Viola 2982-98 ft, dr 3105 ft. General Utilities Burkholder 1, csl n½ se 8-19-3e, HFW Wx 2903-20 ft. D. & A. General Utilities Propp 1, c ne sw 8-19-4e, RU.

LANE COUNTY—Robinson et al's Dickerson 1, swc nw se 11-18-27w, 8 in cas 2625 ft.

NESS COUNTY—E. W. Marland's Moses 1, ne se 7-18-25w, rig. Barnsdall's Lauck 1, c sw 35-18-21w, 6 in cas 422 ft, dr 4345 ft.

RUSH COUNTY—Sinclair's Seur 1, c se nw nw 8-18-17w, dr 3177 ft.

McPHERSON COUNTY—Marland's Swanson 1, c ne sw ne, 36-18-4w, RU, mvg in tools. McPherson County Gas Co.'s Rasmussen 1, swc 8-18-3w, dr 1860 ft.

MARION COUNTY—Shell's Scully 1, nw ne 34-18-3e, dr 1040 ft. Contll & Prairie's Zirak 1, se sw 3-18-3e, HFW 2845-51 ft, td 2890 ft. D. & A.

RUSH COUNTY—Barnsdall's Brock 1, c se se 21-17-17w, dr 3335 ft. Danciger's Swindt 1, c sw se sw 22-17-17w, 6 in cas 3300 ft, dr 3310 ft. Central Commercial's Brack 1, ne sw sw 12-17-16w, spd & sd.

RUSSELL COUNTY — Gobel & Bending's Bartlett 1, c sw sw, 28-17-15w, sd 1190 ft.

ELLSWORTH COUNTY—Texas' Sherman 1, ne sw 16-17-8w, RU.

LANE COUNTY — Blankenship Pet. Co.'s Shaeffer 1, nec ne 24-16-28w, spd & sd.

SALINE COUNTY—Boyle et al's Miller 1, swc se 21-16-1w, chat 3020-30 ft, dr 3200 ft.

DICKINSON COUNTY—Prairie's Morgan 1, nwc 26-16-3e, dr 1500 ft. Milmac et al's Biehler 1, sw ne 28-16-4e, sd 2341 ft. T. C. Johnson's Detweiler 1, swc ne nw 32-16-4e, Wx 2940-45 ft, HFW, sd.

ELLIS COUNTY — Rush Oil Co.'s Gatewood 1, nw 4-15-20w, fsh 2555 ft. Finney & Weimer, Freeman 1, nw se se 24-15-20w, spd & sd.

RUSSELL COUNTY—Prairie-Slick's Sellans 1, sw ne 36-15-13w, HRO 3348-55 ft, running tubing.

ELLSWORTH COUNTY — Templeman's Lanhangager 1, c sw 20-15-6w, rig.

SALINE COUNTY—Dixie's Muiri, csw se

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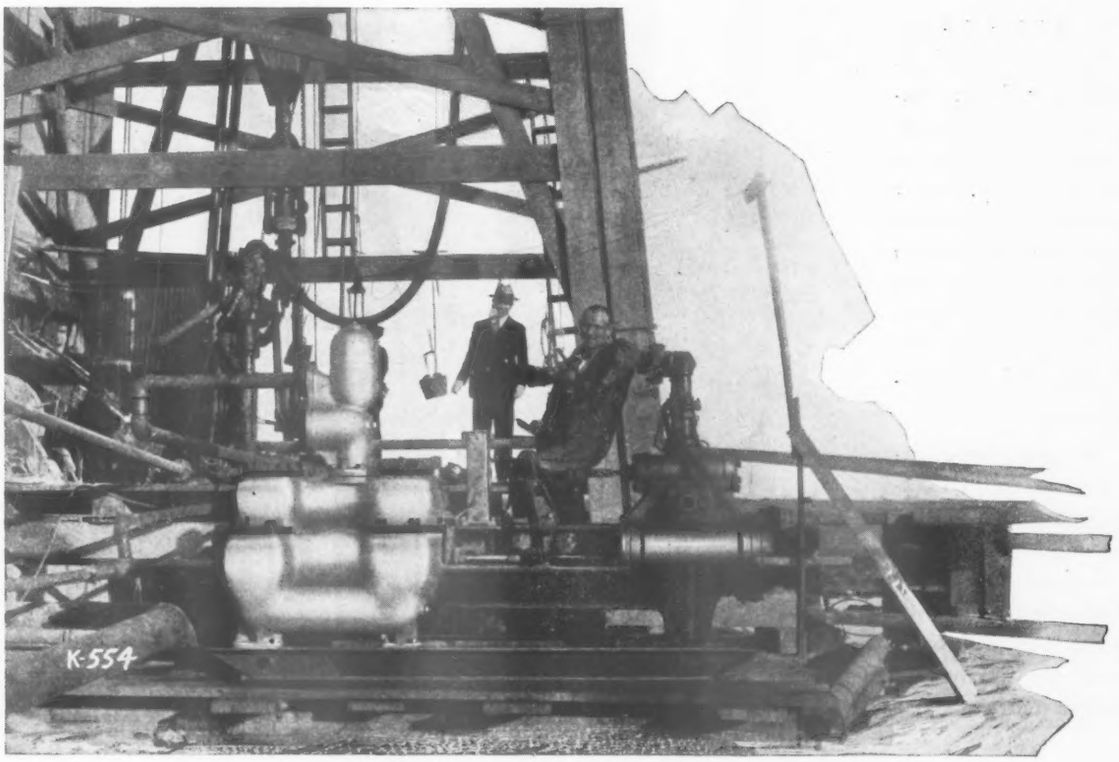

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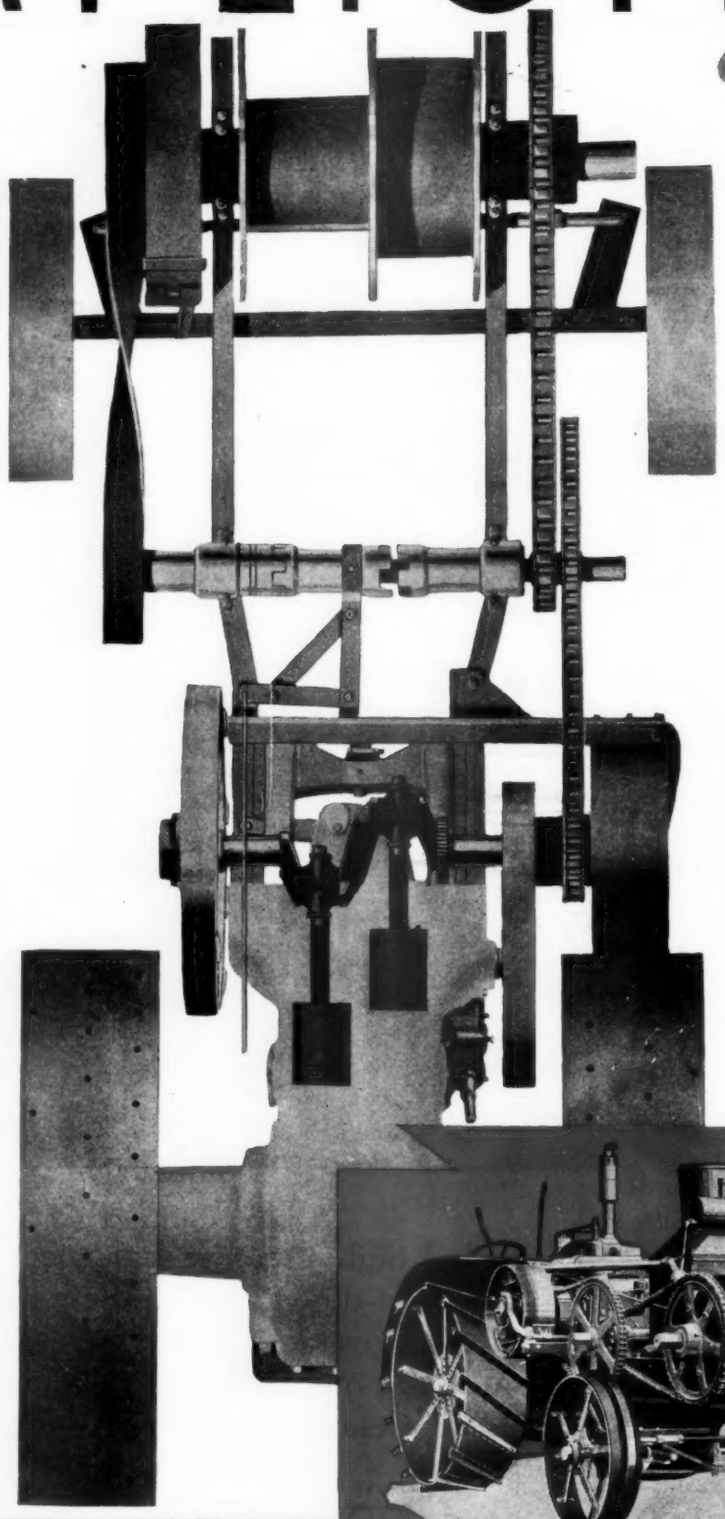

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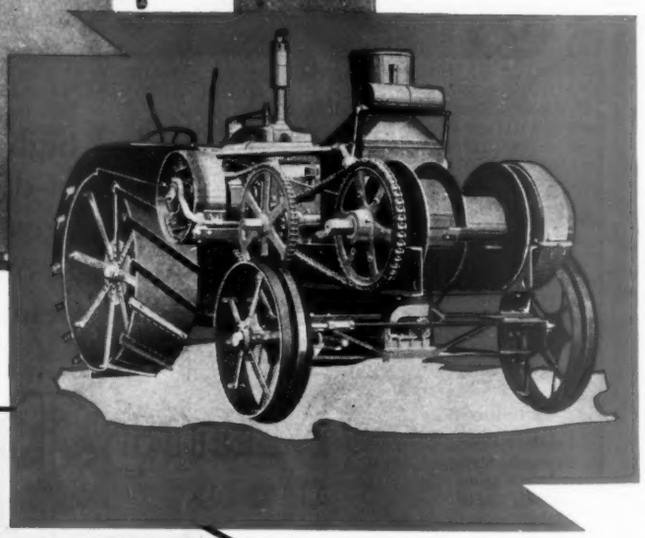

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sw 6-15-2w, 1 M gas, 2722-35 ft, dr 2780 ft. Austin's Olsen 1, c nw sw se, 10-15-4w, rig.

MORRIS COUNTY—Hiatt et al's Blythe 1, nw ne 35-15-5e, sd 2227 ft.

DICKINSON COUNTY—Cross & Hawky's Manli 1, nec, 12-15-2e, rig.

ELLIS COUNTY—T. C. Johnson's Robbins 1, sw nw 15-14-16w, K. C. 3165 ft, dr 3350 ft.

RUSSELL COUNTY — Allison & Fitzwilliams' Mahoney 1, nw se 5-14-12w, dr 3050 ft.

SALINE COUNTY—Kenning-Coastal Co.'s Beal 1, c 23-14-5w, HFW 3618-80 ft, dr 3728 ft.

ELLIS COUNTY—Phillips' Johnson 1, sw ne 9-13-19w, Gorham sand 3593-95 ft, sub 340 bbls 12 hrs. Brown's Gestner 1, nw sw nw, 13-13-18w, HFW 3960 ft, sd 3964 ft.

SALINE COUNTY — Kenning - Coastal's Hughes 1, cw½ ne nw 20-13-4w, spd & sd.

WALLACE COUNTY—Menton & Entyre's Parker 1, c se nw sw, 8-12-41w, rig.

ELLIS COUNTY—Philips' Schmeidler 1, nw, 20-12-17w.

TREGO COUNTY—Mid-Kansas' Ridgway 1, ne sw 28-12-21w, rig. Day's Guyler 1, c sw ne ne 36-12-21w, spd & sd.

ELLIS COUNTY—Burger et al's Hadley 1, c sw sw nw 20-11-17w, dr 2495 ft.

TREGO COUNTY—Day's Unknown 1, c ne nw sw, 2-11-21w, sd 900 ft.

GEARY COUNTY—Wright et al's Younkers 1, nwc ne 17-11-5e, lost bit 226 ft. D. & A.

OSBORNE COUNTY—Jarvis' Jellison 1, sec 13-10-15w, sd 3510 ft. K. C. 3057-59 ft.

OTTAWA COUNTY—Anderson et al's Band 1, ne nw 29-10-2w, sd 3755 ft.

JEFFERSON COUNTY—Wichita Oil Co.' Simpson 1, nw sw sw 19-10-17e, RU & sd.

ROOKS COUNTY—Prairie's Gick 1, c se 22-9-18w, sd 3715 ft. Burford & Brimm's Toxa 1, ne sw se 22-9-17w, spd & sd. Krueger et al's Steis 1, c nw se sw 12-9-16w, spd & sd.

GRAHAM COUNTY—Gulf Coast's Johnson 1, swc sw se 27-8-15w, dr 3860 ft.

SHERMAN COUNTY—A. L. Hanson et al's Murray 1, ne se nw 22-7-40w, sd 3035 ft.

OSBORNE COUNTY—Phillips' Grieve 1, sw sene, 6-7-12w, spd.

RILEY COUNTY—Derby-Skow Bros.' Lundstrum 1, ne 32-7-5e, dr 945 ft.

OSBORNE COUNTY—Trees' Payenter 1, c ne se se 22-6-15w, UR 8-in cas, 2410 ft. Mid-Kansas' Boyce 1, se nw 8-6-13w, sd 300 ft.

RILEY COUNTY—Gray et al's Smith 1, ne se 30-6-6e, dr 1200 ft.

SMITH COUNTY—Phillips' Clydesdale 1, se nw 23-5-14w, dr 1000 ft.

WASHINGTON COUNTY—McCool & Vincent's Linn 1, nw neu 27-4-3e, dr 2300 ft.

MARSHALL COUNTY—Irwin et al's Cooper 1, ne nw 10-3-7e, sd 2240 ft.

PHILLIPS COUNTY—Watsonian & British American's Weiman 1, c sw sw 34-2-19w, dr 2550 ft.

OKLAHOMA

WOODS COUNTY—T 28 n, R 16w, Sec. 14, Peerless Oil Co. et al's, Cromwell, c sw se, moving in rig. T 27n, R 16w, Sec. 33, Sinclair O. & G. Co.'s Share 1, c ne sw, dr 3829 ft.

ALFALFA COUNTY— T27n, R 11w, Sec. 12, Smith Bros.' Forbes 1, nec se nw nw, sd 310 ft.

KAY COUNTY—T 26n, R 2e, Sec. 32, J. A. Vincent & Nat'l Union's McNeal 1, nw ne, sd 2795 ft.

HARPER COUNTY—T 25n, R 22w, Sec. 14, Hoffer Oil's Cooper 1, nwc se, sd 4182 ft.

WOODS COUNTY—T 25n, R 15w, Sec. 10, Bu Vi Bar et al's 1, sec sw, T. S. 52-19 (show gas, sd 5510 ft.)

GRANT COUNTY—T 25n, R 4w, Sec. 22, Bowden's Vollmer 2, nec se ne sw, lost tools 5640 ft, sd.

WOODWARD COUNTY — T 24n, R 17w, Sec. 32, Otstot Dev. Co.'s Simmons 1, sec, sd 1500 ft.

WOODS COUNTY—T 24n, R 13w, Sec. 18, Miller et al's Copenhover 1, nwc, sp and sd.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, Washoma Oil Co.'s Acre 1, swc ne, rig.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer's White 1, sec nw, hfw 4730-4800 ft, dr 5410 ft.

WOODWARD COUNTY—T 23n, R 20w, Sec. 9, Billy Oil Co.'s Wyatt 1, c se, sd 3690 ft. T 23n, R 17w, Sec. 2, John Farran, Belva 2, csl sw se, sd 1387 ft.

MAJOR COUNTY—T 23n, R 16w, Sec. 4, Wilson et al's Creech 1, nec sw, sd 510 ft.

NOBLE COUNTY—T 22n, R 1e, Sec. 24, Gypsy's Dailey 1, swc ne ne, dr 2077 ft.

WOODWARD COUNTY—T 21n, R 21w, Sec. 25, Sharon's Elmore 1, swc, rig blown down, td 3025 ft. T 21n, R 19w, Sec. 15, Burgoyne Bros.' Merklin 1, swc se ne, sd 1910 ft.

MAJOR COUNTY—T 20n, R 14w, Sec. 23, Keller et al's Horton 1, c ne ne, sp and sd.

NOBLE COUNTY—T 20n, R 1w, Sec. 26, Magnolia's King 1, sec sw, sp.

BLAINE COUNTY—T 19n, R 1w, Sec. 13, Washoma's Phillips 1, c nw sw, dr 1675 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Healey & Consolidated Drlg. Co.'s Quier 1, sec sw, sd 3970 ft.

KINGFISHER COUNTY—T 16n, R 7w, Sec. 6, Gault-Brown 1, c nw se (owd), show gas 5088-5128 ft, testing 5195 ft.

KINGFISHER COUNTY—T 16n, R 6w, Sec. 27, Crawford & McKenna's Sturgeon 1, nec sw, sd 4895 ft.

CANADIAN COUNTY—T 14n, R 6w, Sec. 9, A. D. Spears' Piatt 1, swc nw, sd 3222 ft.

CIMARRON COUNTY—T 5n, R 5e, Sec. 22, Magnolia's School Land 1, c se nw, rur 4500 ft.

TEXAS COUNTY—T 1n, R 15e, C. M., Sec. 25, Skaer et al's Hitch 1, nwc, sd 250 ft.

OSAGE COUNTY—T 26n, R 7e, Sec. 13, Wrightsman Pet. Co. 1, sec nw, dr 2295 ft. Sec. 19, Peters Pet. et al 1, sec, rig on ground. Sec. 23, White Eagle 1, nwc ne se, rig. Sec. 33, Duffield & Howard 1, swc nw, dr 700 ft. T 23n, R 10e, Sec. 32, Union Oil & Mining 1, sec nw, dr 1135 ft.

LINCOLN COUNTY—T 17n, R 5e, Sec. 7, Mote & Wheeler's McLaughlin 1, sec nw nw, lcn. T 16n, R 4e, Sec. 15, J. V. Bailey's House 1, c ne se, TS 4616-31 ft, water, plugging. T 16n, R 5e, Sec. 19, T. P. C. & O. Co.'s Seabo 1, nwc, Wilcox 4533-4600 ft, hfw, dry and abn, (comp.) T 16n, R 6e, Sec. 19, Flynn and Morgan's Finely 1, swc, dr 3485 ft. T 14n, R 6e, Sec. 33, Magnolia's Mitchell 1, nec, ur 6-in at 3860 ft. T 12n, R 3e, Sec. 29, Phillips' Robinson 1, sec nw, rig.

OKFUSKEE COUNTY—T 12n, R 7e, Sec. 29, Barnsdall's Soweka 1, nec sw, Wilcox 4843-55 ft, water plug black to 3935 ft, show oil and water.

McINTOSH COUNTY—T 12n, R 18e, Sec. 15, A. B. Wolfe et al's Beck 1, nwc se, sp and sd.

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al's McDuff, swc nw se, sand 5556-59 ft, shot 240 qts, co.

HASKELL COUNTY—T 9n, R 18e, Sec. 10, Marion's Sanders 1, nwc ne sw, show 2M gas at 1800 ft, sd 2692 ft.

LATIMER COUNTY—T 5n, R 18e, Sec. 15, Limestone O. & G. Co.'s Murray 1, swc, sd 3950 ft, several shows of gas.

OKLAHOMA COUNTY—T 12n, R 2w, Sec. 30, Magnolia's Noble 1, nwc sw sw, dr 5960 ft. T 12n, R 1w, Sec. 19, Mid-Kansas & Ramsey's Trosper 1, nec nw, dr 4387 ft.

OKFUSKEE COUNTY—T 11n, R 7e, Sec. 6, Superior et al's Carolina 1, sec, lcn.

SEMINOLE COUNTY—T 10n, R 7e, Sec. 12, I. T. I. O. et al's Chatkey 1, swc ne, lcn. T 10n, R 7e, Sec. 20, Gypsy's Harjo 1, nwc ne ne, dr 3820 ft.

POTTAWATOMIE COUNTY—T 8n, R 3e, Sec. 9, Cal Cul Oil Co.'s Wilson 1, nwc ne nw, rig. T 8n, R 5e, Sec. 33, Phillips & Furman's Raper 1, swc se, cmtg 8-in 4300 ft.

SEMINOLE COUNTY—T 8n, R 7e, Sec. 4, Magnolia's Reed 1, nec sw, TS 3361-3425 ft, td 3430 ft, swab 125 bbls (comp.)

HUGHES COUNTY—T 8n, R 11e, Sec. 25, McGee Bros.' Smith 1, sec sw, dr 3330 ft.

CLEVELAND COUNTY—T 7n, R 1w, Sec. 15, Socner's Vandever 1, nec nw sw, sd 3120 ft.

POTTAWATOMIE COUNTY—T 7n, R 3e, Sec. 15, Amerada et al's Vineyard 1, nwc ne ne, lcn. Sec. 19, Frank Moore's Fundis 1, sec ne, lcn. T 6n, R 3e, Sec. 11, Shaffer & Margay's Adams 1, nec, set surface pipe.

SEMINOLE COUNTY—T 6n, R 5e, Sec. 11, McCulloch's Powell 1, nwc, hfw 4530 ft, sd. T 6n, R 6e, Sec. 8, E. L. Harris' Harjoche 1, sec ne se, lcn. T 6n, R 7e, Sec. 9, Gypsy's Thomas 1, sec nw, setg 6-in 4212 ft. Sec. 3, I. T. I. O. et al's Factor 1, swc ne se, dr 4550 ft.

HUGHES COUNTY—T 5n, R 9e, Sec. 17, E. W. Whitney's Huddleston 1, sec sw, ur 5-in 3910 ft.

PONTOTOC COUNTY—T 4n, R 8e, Sec. 23, Independent's Hampton 1, nec, ur 8-in 2985 ft.

PITTSBURG COUNTY—T 4n, R 12e, Sec. 32, Kerr & Key's Tall 1, c nw nw, dr 2004 ft.

COAL COUNTY—T 2n, R 8e, Sec. 6, J. S. Cosden's Richardson 1, nwc ne ne, setg 10-in 1720 ft. Sec. 7, McKinley & Sigler's Wilsey 1, nwc se se, 12-in at 115 ft. T 2n, R 8e, Sec. 10, E. W. Whitney's Miller 1, sec ne, sd 202 ft. T 1n, R 11e, Sec. 10, I. T. I. O. Co.'s Cook 1a, sec sw nw, dr 7485 ft.

CUSTER COUNTY — T 14n, R 14w, Sec. 1, W. E. Witt's Wellman 1, c se, sd 100 ft.

ROGER MILLS COUNTY—T 12n, R 24w, Sec. 23, Bucy & Stone's Williams 1, c sw, lcn. T 11n, R 26w, Sec. 4, L. C. Hivick's Davis 1, c nw ne, sd 700 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey's Robinson 1, c ne nw, sd 150 ft.

BECKHAM COUNTY—T 8n, R 22w, Sec. 20, Carson et al's Denby 1, swc se ne, sd 1535 ft.

GREER COUNTY—T 6n, R 24w, Sec. 24, I. T. I. O. et al's Fee 1, c ne, dr 1804 ft.

CADDO COUNTY—T 6n, R 13w, Sec. 8, Abernathy & Brown's Horton 1, sec, sd 535 ft. T 6n, R 10w, Sec. 26, English Drlg. Co.'s Garner 1, nwc sw, dr 1600 ft.

HARMON COUNTY — T 4n, R 26w, Sec. 8, S. M. Stauffer's Caftleman 1, nwc se, run 12-in to 600 ft.

STEPHENS COUNTY—T 2n, R 8w, Sec. 27, Smith et al's Shaw 1, c ne ne, 2603 ft, dry and abn (comp.)

JACKSON COUNTY—T 1n, R 20w, Sec. 4, Houseman et al's Northington 1, nec, sd 2020 ft.

TILLMAN COUNTY—T 1n, R 17w, Sec. 13, Allen Bros.' Howell 1, nwc se, sd 835 ft. T 1s, R 18w, Sec. 25, Wirt Franklin Pet. Corp.'s Zweig 1, c nw, 3501 ft, dry and abn (comp.)

COTTON COUNTY—T 1s, R 11w, Sec. 24, Bridwell et al's Crown 1, sec sw sw, sd 1626 ft.

TILLMAN COUNTY—T 4s, R 14w, Sec. 16, Ridgeway et al's Barnes 1, nwc ne, lcn.

COTTON COUNTY—T 4s, R 9w, Sec. 31, Amerada's Delana 1, sec nw nw, dr 2085 ft.

JEFFERSON COUNTY—T 5s, R 7w, Sec. 34, Amerada's Majors 1, sec nw nw, lcn.

MURRAY COUNTY—T 1n, R 2e, Sec. 17, Revels & McGee's Wolfe 1, nwc, sd 2275 ft.

JOHNSTON COUNTY—T 1s, R 7e, Sec. 29, Smith-Kinsley's Lane 1, sec nw, sd 1901 ft.

CARTER COUNTY—T 4s, R 1e, Sec. 32, Leonard Woodruff's Zellner 1, nec nw se, dr 1225 ft. T 4s, R 2e, Sec. 32, Tex-Okla. Drlg. Co.'s Anderson 1, sec ne se, sd 420 ft.

BRYAN COUNTY—T 9s, R 9e, Sec. 36, W. C. Endicott et al's Craig 1, c nnw ne, sd 1500 ft.

WOODWARD COUNTY—T 23n, R 17w, Sec. 23, the Prairie & Transcontinental's Wilbur 1, nec sd 4300 ft.

CLEVELAND COUNTY—T 10n, R 2w, Sec. 8, Prairie & Slick's Sudik 1, c ne ne, dr 6791 ft.

SOUTHERN CALIFORNIA

BELVEDERE—W. H. Taylor's Hellman 1, 32-1-12, dr brown shale 3240 ft.

CLEARWATER—The Texas Co.'s Montana Land 1, fsh for dr collar and bit, td 1002 ft.

FULLERTON—Shell Oil Co.'s Bastanchury Ranch 1, 28-3-10, dr hard sandy shale 3762 ft.

HAWTHORNE—Standard Oil Co.'s Freeman 1, 5-3-14, dr brown shale, streaks grey sand 5712 ft.

MONTEREY PARK — Monterey Park Pet. Co.'s Jepson 1, 25-1-12, dr brown shale, thin streaks oil sand, faint cut, 4214 ft.

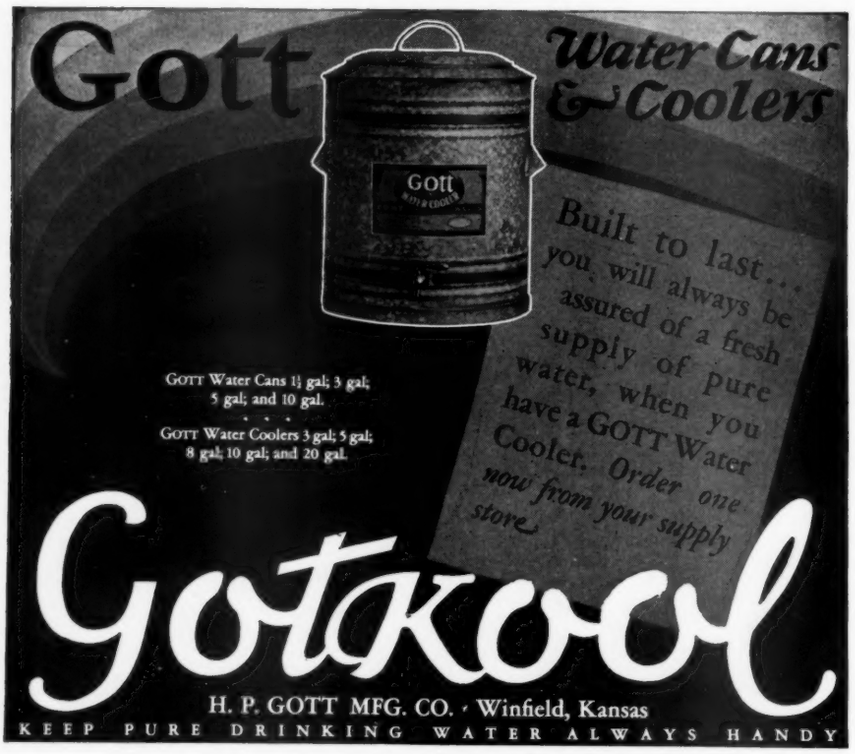
NEWHALL—P. B. Anderson's 1, 1-3-16, installing heavier equipment. Southern Calif. Drlg. Co.'s Needham 1, rigged up.

NEWPORT—Mesa Pet. Corp.'s B&A 1, 16-6-10, dr hard grey sand 4514 ft. Pico Dome Oil Co.'s 1, 14-3n-16w, 10-inch cas will cmt at 650 ft.

POMONA—Pomona Oil Assn.'s 1, 32-1-8, dr grey sand 1163 ft.

PUENTE HILLS—Brea Canyon Dev. Co.'s

XUM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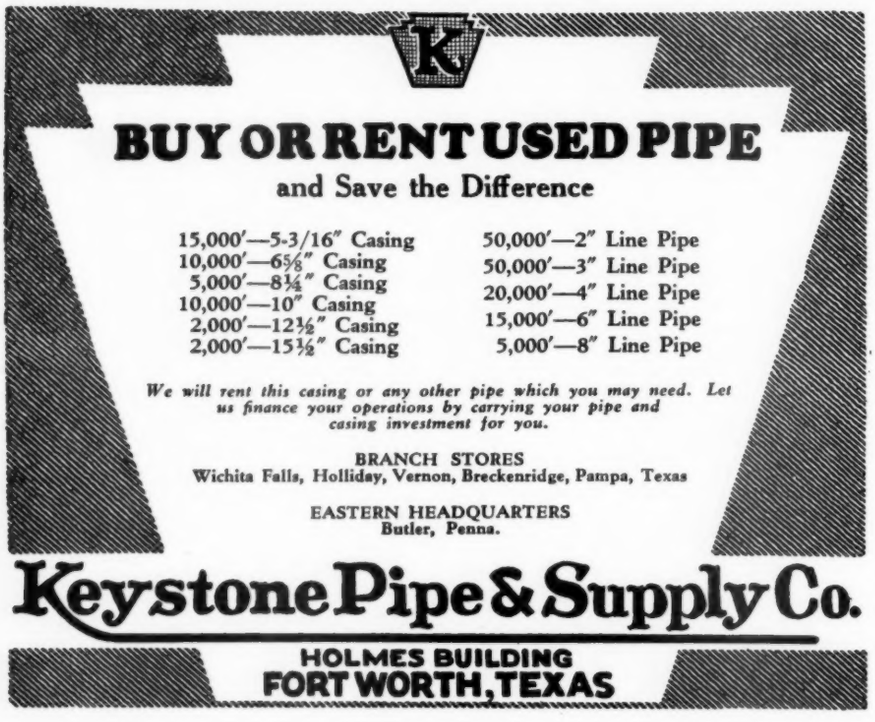
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Bierd 1, 30-2s-9w, rep. equipment, td 398 ft. R. C. Rucker's Grazide 1, 27-2-10, dr brown shale, grey sand, 1535 ft.

RICHFIELD—Western Drlg. & Prod. Co.'s Day 1, 21-3-9, dr brown shale, grey sand 5470 ft.

ROSECRANS — Burlingame Pet. Corp.'s Hamm 1, co to run oil string, td 2170 ft. Lee & Brainerd's Owens 1, rig.

TELEGRAPH CANYON — Union Oil Co.'s Rimpau 1, 13-3-9, dr shale 165 ft.

WHITTIER—R. W. Jackson's Flory 1, tested wet, idle, td 1449 ft.

RIVERSIDE COUNTY — Hall Pet. Co.'s Watt 1, 23-7-3, prep. to skid 30 ft se, td 927 ft. Hemet Pet. Co.'s Ward 1, dr hard sand 3265 ft. Trabuca Oil Co.'s 1, dr hard fine sand, 3829 ft.

SAN BERNARDINO COUNTY—Urmi Oil Co.'s Schuh-Zellers 1, 31-2s-8w, dr shale 50 ft, spudded 6-29-29.

SAN DIEGO COUNTY—Borderland Exploration Co.'s Encinitas 1, rig.

NORTHERN CALIFORNIA

KERN COUNTY

BAKERSFIELD—Taft Well Drlg. Co.'s Delfino 1, 2-30-27, dr hard sand 3320 ft.

BELRIDGE—Calkern Oil Co.'s 1, 18-28-22, lcn. Ventura-Pacific Oil Co.'s 1, 18-29-22, rep. rig, td 3375 ft.

BUTTONWILLOW-SEMITROPIC — Milham Exploration Co.'s Kern 6, 8-28-12, dr 80 ft, sp 6/29/29. Crites 1, 8-28-23, dr blue shale 1412 ft.

GOULD HILLS—Elmer Oil Co.'s 1, 2-29-20, dr sandy shale 2988 ft. J. H. Kennedy's 1, 5-29-21, dr hard shale 75 ft. K. C. Wallace's 1, 32-29-21, dr brown shale 1065 ft.

KERN RIVER—Gatton & Gould's 1, reaming 1450 ft. Richfield Oil Co.'s Boston 1, 20-28-28, grey shale coring 4741 ft.

LERDO — Shell Oil Co.'s Ansolabehere 1, 5-29-27, testing re-cemt job, td 3765 ft.

McFARLAND—General Pet. Corp.'s KCL 1, 25-26-25, dr brown shale 5613 ft.

ROSEDALE—Elmer Oil Co.'s 1, 33-29-26, dr sandy shale 1260 ft, spudded 6/24/29.

SHALE HILLS—Day Oil Co.'s 1A, 1-27-18, dr brown shale, 630 ft.

SAN EMIDIO—Union Oil Co.'s KCL 2, 5-10-21, dr brown shale 3691 ft.

TEMBLOR HILLS—Geo. F. Getty's Phelps 1, 29-31-22, dr hard brown shale 3180 ft, good cut. Union Oil Co.'s W. P. 1, 27-32-23, bailing for test, td 2220 ft. Williams 1, 22-32-23, dr grey sand, oil sand 1717 ft.

SANTA BARBARA COUNTY

BETTERAVIA—Shell Oil Co.'s U. S. A3, 36-10-35, abn, td 1911 ft. U. S. A4, 36-10-35, abn 1897 ft.

BUELL CANYON—Union Oil Co.'s Buell 1, redr 203 ft, td 1586 ft.

CARPENTERIA—Continental Oil Co.'s Kitty C. Bailard 1, dr brown shale 3790 ft.

GOLETA—General Pet. Corp.'s More 1, 21-4-28, dr brown shale, grey sand 4023 ft. Padre Oil Co.'s Dos Pueblos Ranch 1, 8-4-29, dr red shale 3990 ft. Pet. Securities' Bishop 1, dr shell 3147 ft.

LOS ALAMOS—L. B. O'Niel's Orena 1, rig.

NAPLES—Pacific-Western's Wiley Ranch 1, 7-4-29, dr 2900 ft.

ORELLA—Shell Oil Co.'s Rutherford 1, 36-5-31, dr red sandy shale 4663 ft.

POINT ARGUELLO — Standard Oil Co.'s Sudden 1, making fdn.

POINT CONCEPCION—Western Gulf Oil Co.'s Hollister 1, 5n-33w, 10¾, stdg, recmt, 3088 ft, td 3115 ft.

SANTA MARIA—System Oil Co.'s Bradley 1, 36-10-34, rmg. 3155 ft.

SUMMERLAND—Geo. F. Getty's Becker 1, 22-4-26, bailing for cas test, td 2900 ft. Becker 2, setting boilers. Lincoln Drlg. Co.'s Williams 1, 21-4-26, making prod. test, td 1250 ft.

SURF—Gaviota Oil Co.'s Moretti 1, 7n-35w, new lcn. Keystone Oil Co.'s True Ranch 1, rigging up.

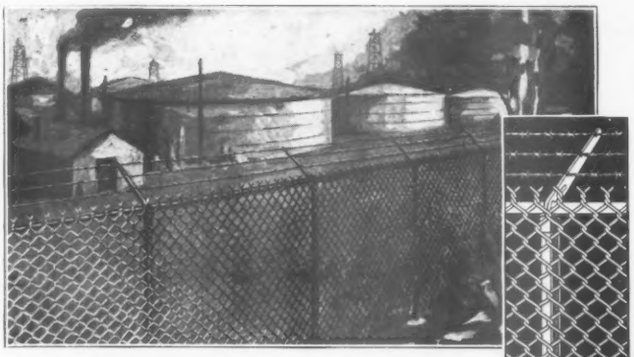
VENTURA COUNTY

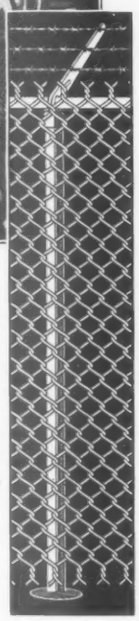
RED MOUNTAIN—E. J. Miley's Casitas 2A, 7-3-23, dr tough shale 1512 ft.

CONEJO—Triunfo Oil Co.'s 1, 24-1-19, co 1300 ft.

FILLMORE—Frank Oil Co.'s 1, 35-4-20, dr hard sand 1860 ft.

LOCKWOOD VALLEY—Lockwood Valley





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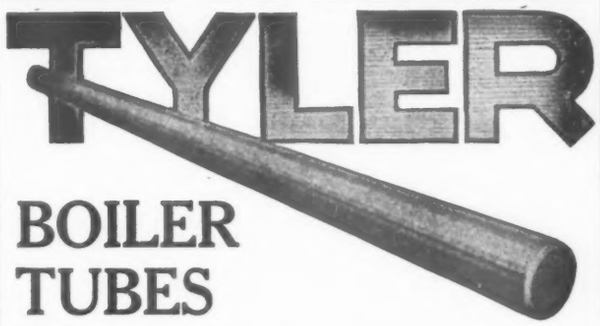

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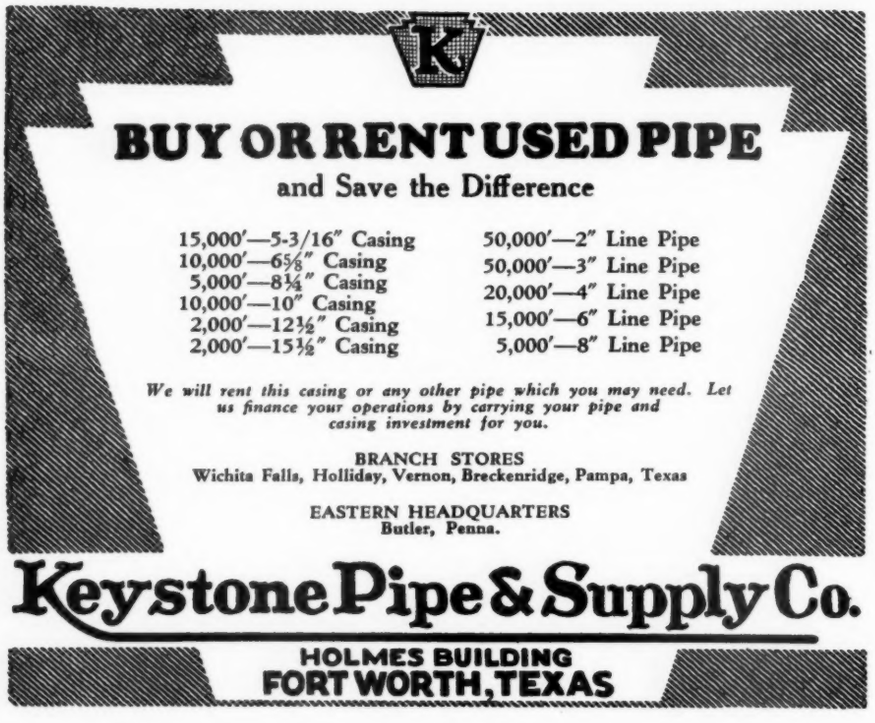
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BUTTONWILLOW-SEMITROPIC — Milham Exploration Co.'s Kern 6, 8-28-12, dr 80 ft, sp 6/29/29. Crites 1, 8-28-23, dr blue shale 1412 ft.

GOULD HILLS—Elmer Oil Co.'s 1, 2-29-20, dr sandy shale 2988 ft. J. H. Kennedy's 1, 5-29-21, dr hard shale 75 ft. K. C. Wallace's 1, 32-29-21, dr brown shale 1065 ft.

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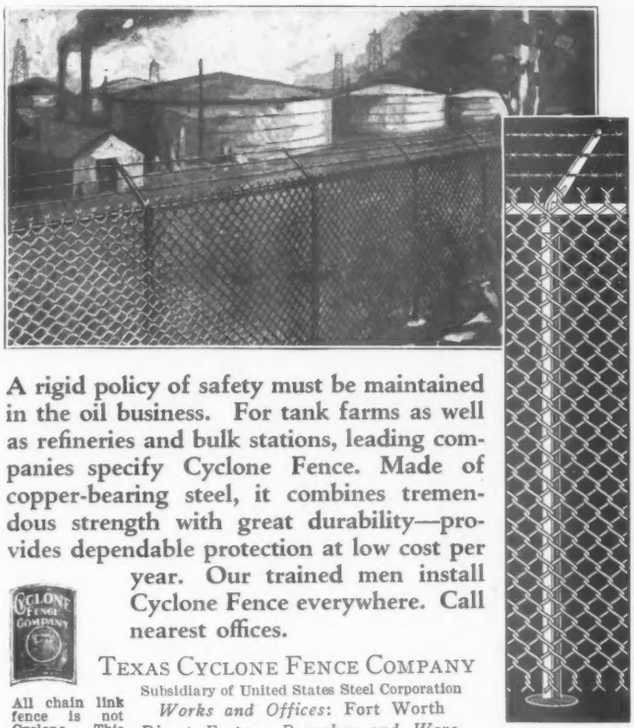

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Oil Co.'s 1, 28-8-21, rigging cable tools, td 50 ft.

OJAI—Calif.-Ventura Oil Co.'s LaCrosse 1, dr brown shale 2190 ft. Continental Oil Co.'s Sulphur Mt. 1, 21-4-22, dr hard sand 1450 ft.

PIRU—Bolsa Chica Oil Co.'s Snow 1A, 4-4-18, dr brown shale 524 ft. Pacific-Western's Tehmescal 5, 3-4-28, dr hard grey sand 4516 ft. Wasibi Oil Co.'s Bishop 2, 34-5-19, deepening.

SANTA PAULA — San Pedro-Pt. Fermin's Kellerman 1, 13-4-21, trying to locate water, td 902 ft.

SATICOY—Standard Oil Co.'s Citrus 5, dr brown shale 7100 ft.

SIMI—Shell Oil Co.'s Marr 1, 31-3-17, 13-3/8 stg. cmt, 2870 ft, td 2873 ft.

SOUTH MOUNTAIN — Federal Oil Co.'s Sexton 1, dr sandy shale 4480 ft.

MISCELLANEOUS

KINGS COUNTY

TULARE LAKE DIST.—J. E. O'Donnell's 1, 7-23-30, rigging rotary.

MENDOCINO COUNTY

SOLDANI—Twin State Oil Co.'s 1, 14-12n-17w, rigging up.

MONTEREY COUNTY—W. R. Brown's 1, 29-23-14, will cmt 20-inch cas 40 ft. C. H. Braden's 1, 19-23-15, rigging portable outfit. Marland Oil Co.'s Nacimiento 1, 32-24-11, fsh for ur, td 5955 ft. Shell Oil Co.'s Dudley 1, 15-22-9, dr grey sand 3198 ft. Standard Oil Co.'s Piedmont 1, new lcn.

POLE CANYON—Union Oil Co.'s Paige 1, 8-22-8, co to cmt. 16 -inch cas, td 1000 ft.

SAN LUIS OBISPO—Thos. Purman's 1, 12-32-22, dr brown shale 3360 ft. Midwest O&R Co.'s Porter 1, 34-31-15, dr sandy shale 729 ft. Panorama Oil Co.'s 1, 7-31-21, co 3903 ft. Paso Robles Oil Co.'s Emerick 1, 27-27-11, dr brown shale 2030 ft. Pismo Dome Oil Co.'s Pricco 2, 5-32-13, dr shale 290 ft. Texas Coal & Oil Co.'s Dutton 1, 25-32-14, 11¾ cas stg. cmt at 1603 ft, td 1816 ft. Union Oil Co.'s Chandler 1, 12-32-15, td 3484 ft., drilled out 10-inch cas at 2912 ft.

TULARE COUNTY—Bruce Frame's Pixley 1, 8-23-26, rig.

NORTH LOUISIANA

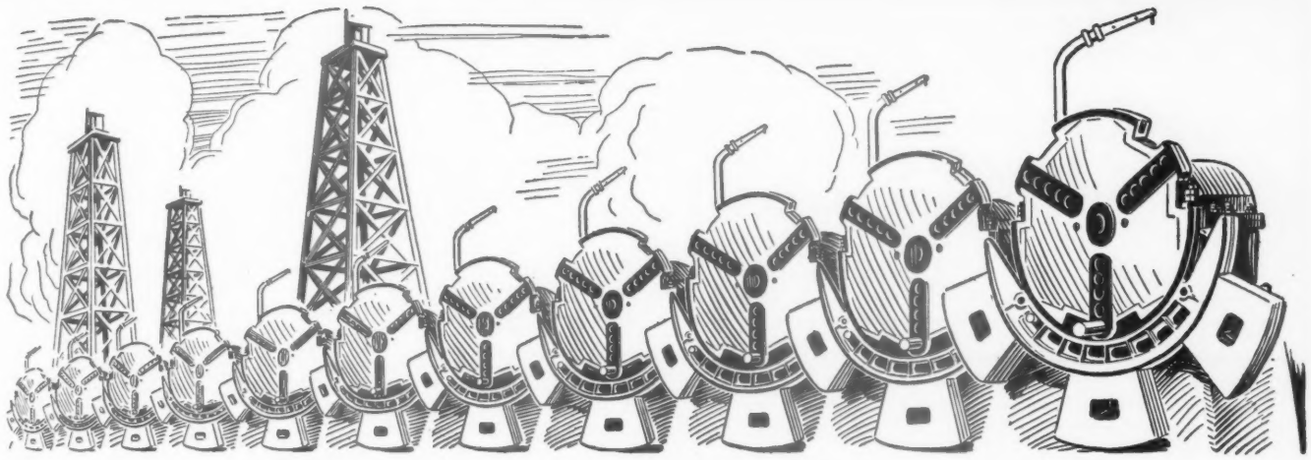
Company, Well and Location	Initial Production Bbls.	Depth
UNION PARISH—		
Texas Co., F. M. Fuller 1, 9-21-2w..	*	3587
WEBSTER PARISH—		
Magnolia Pet. Co., Denman 1, 1-22-11 sw		2719

BIENVILLE PARISH—W. G. Gray Tr's Snyder 1, 15-16-6w, dr gumbo 2696 ft.

BOSSIER PARISH—Nell & Lanier's Biedenharn 1, 23-21-14, sd 790 ft. Walker et al's Antrim 1, 28-22-13, sd wo 3017 ft, td 3048 ft. John F. Woodman's Bolinger 1, 9-22-11, sd 3532 ft. Delaware La. Dev. Co.'s Bolinger 4, 38-23-11, plugged back to 3150 ft, cmtd 4½-in cas, td 3922 ft. Palmer Corp.'s Schmidt 1, 14-17-12, 23,843,000 ft gas, td 877 ft. Triangle Drilling Co.'s Thigpen-Herold 1, 11-17-12, lcn.

CADDO PARISH—D. C. R. Oil Co.'s Oden 1, 20-19-14, waiting on 6-in cas set 2402 ft. Dixie Oil Co.'s Robertshaw 92, 13-21-15, bailing to test in lime rock, td 6208 ft. Lide & Davidson's Oden 1, 21-19-14, rig up. Walter Ray et al's Hunter Est. 1, 8-19-14, dr san drock 1925 ft; 2, 8-19-14, lcn. Palmer Corp.'s Hunter Est. 1, 8-19-14, set 6-in cas top cap rock 2394 ft, td 2401 ft; 2, 8-19-14, lcn. Sam Gold et al's Hunter Est. 1, 17-19-14, flowing 691 bbls 41.9 grav oil, td 2415 ft. Ohio Oil Co.'s Hunter Est. 1, 17-19-14, pumping 80 bbls oil, td 2414 ft; 2, 17-19-14, dr 260 ft; 3, 17-19-14, lcn; 4, 17-19-14, lcn. Sam Gold et al's Hunter Est. 2, 17-19-14, drk, pat. Standard Oil Co. of La.'s Henderson 2, 7-19-14, 1,000 ft fluid in hole 50% sw will pump, td 2407 ft; Hunter Est. 3, 17-19-14, drk; 5, 17-19-14, 6-in cas set 2384 ft, will pump, td 2411 ft; Pope Oden 2, 18-19-14, bailed dry 2419 ft to deepen; Henderson 3, 7-19-14, drk; Hunter Est. 6, 17-19-14, dr 75 ft; Oden 3, 18-19-14, lcn. S. T. Onyett Tr's Dixon 1, 10-19-14, rig up. Gulf Ref. Co.'s Pope Oden 3, 18-19-14, set liner red shale 2411 ft bailing; Pope Oden 4, 18-19-14, set 6⅝-in cas 2378 ft, td 2400 ft. I. N. Pharris' Oden 1, 19-19-14, lcn. Fred McWilliams' Pope Oden 1, 20-19-14, lcn.

CLAIBORNE PARISH—Southern Crude Oil Purch. Co.'s Christian 1, 22-23-6w, dr 20 ft. Smitherman & McDonald's Miller 1, 17-23-8,



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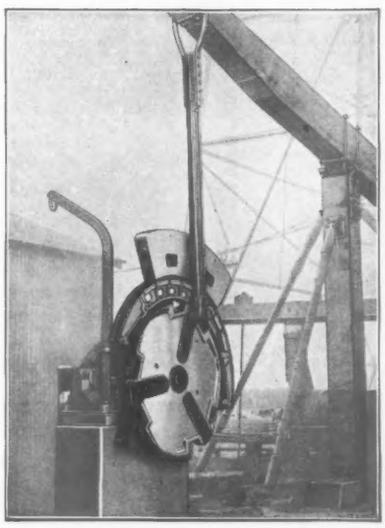

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temp abn, td 4780 ft. El Dorado Chief Oil Co.'s Dance 1, 27-20-7w, drk.

CATAHOULA PARISH—Lochnager O. & G. Co.'s Taliaferro 1, 26-9-6e, sd 900 ft.

DESOTO PARISH—R. O. Roy's Rogers 1, 13-13-14, dr rock 500 ft. L. M. Moffitt's Boatright 1, 3-10-13, tested 10,000 ft gas, sd 3078 ft. P. J. Becker's Tull 2, 23-12-15, dr 1800 ft. Benedum & Trees' State 2, 22-14-12, dr rock 2980 ft.

FRANKLIN PARISH—Davis et al's Moore 1, 12-11-6e, sd 1430 ft.

JACKSON PARISH—Geo. O. Baird's Tremont Lbr. Co. 1, 24-17-1w, r to bottom in sand claim show oil, td 3045 ft.

LASALLE PARISH—Tunica Pet. Co.'s L. & A. 47m, 17-17-2e, set 6-in cas 826 ft.

LINCOLN PARISH—V. E. Shaw's Voss 1, 1-20-3w, sd 2740 ft.

MOREHOUSE PARISH—Rainbow Oil Co.'s Louisville Cooperage 1, 33-22-8e, drk.

NATCHITOCHES PARISH—S. D. McDaniels' Clarke-Morse Lbr. Co. 2, 23-5-6w, sd 2536 ft. Robeline O. & G. Co.'s Cassady 1, 7-8-9w, show gas, ds stuck 3230 ft.

OUACHITA PARISH—Ouachita Nat. Gas Co.'s D'Arbonne B-2, 25-19-2e, sd 3349 ft. Phillips et al's School Fee 1, 16-16-4e, dr hard rock 3940 ft.

RAPIDES PARISH—G. E. Silbertson's Willemach 3, 13-5n-4w, sd 2250 ft. Glenmora Pet. Co.'s Fee 1, 1-2n-2w, sd 3850 ft.

RICHLAND PARISH—Austin & McDonald's Millsaps 1, 17-17-6e, topped volcanic ash 2381 ft, topped red beds 2436 ft, tested 200,000 ft gas 2437 ft, arr deepen; Millsaps 2, 17-17-6e, tested sw, sd wo 2697 ft; Millsaps 3, 16-17-6e, lcn; Millsaps 4, 16-17-6e, lcn. S. R. Humble's Binion-Sartor 1, 22-17-6e, drk; Etheridge 1, 28-17-6e, cmtd 6-in cas 2291 ft. Hope Prod. Co.'s Standard of La. 1, 28-17-6e, cmt 6-in cas 2285 ft; Eubanks 1, 26-17-6e, dr 2145 ft. North La. Gas Co.'s Humble 1, 20-17-6e, fsh ds 2210 ft. Palmer Corp.'s Eubanks 1, 26-17-6e, lcn; Hardwick 1, 16-17-6e, cmt 6-in cas 2308 ft; Jones 1, 22-17-6e, bailing cas 2302 ft; Miles 1, 11-17-6e, tested dry 2613 ft, dr sand rock 2615 ft; Rhymes 1, 21-17-6e, bailing 6-in cas 2302 ft; Whitten 1, 21-17-6e, bailing to test, td 2399 ft. North La. Gas Co.'s Boykin 1, 20-17-6e, running wild after cratering; 2 relief wells drilling. Southern Carbon Co.'s Binion & Sartor 1, 21-17-6e, set 12-in cas 185 ft.

SABINE PARISH—R. L. Gay Tr's Bowman-Hicks 4, 14-7-14, rig up. Sabine Lbr. Co. 2, 23-7-14, cmtd 8¼-in cas 2109 ft, td 2146 ft; Long-Bell Lbr. Co. 1, 26-8-14, cmtd 8¼-in cas after oil show 1839 ft. H. A. Tarver's Long-Bell Lbr. Co. 1, 29-8-13, trying to make ds test 3528 ft.

UNION PARISH—Texas Co.'s F. M. Fuller 1, 9-21-2w, dry abn in red shale, td 3587 ft. Sundby et al's Security Trust 1, 6-23-1e, sd 2300 ft. G. E. Carmatte's Tugwell 2, 21-22-1e, 2250 ft. Carter & Wingfield's Clark A-3, 8-23-1e, drk. H. C. McDonald's Union Sawmill 2, 8-23-1e, sd 1500 ft.

WEBSTER PARISH—Donohoe Oil Co.'s Roseberry 1, 33-23-9e, dr 2250 ft. W. M. Kemp et al's Campbell 1, 11-22-10, coring sandy shale 2650 ft. P. Hudson's Slack 1, 2-22-11, sd 2592 ft. Nemours Corp.'s Munn 2, 1-22-10, tested 4 mil ft gas, wo 2633 ft. Magnolia Pet. Co.'s Atkins 1, 4-22-9, 1,000 ft oil in hole WOSR, td 2665 ft. John F. Woodman's Boyd 1, 3-22-11, drk. Magnolia Pet. Co.'s Sallie Coyle 1, 2-22-11, dr 2532 ft; McCook & Hibbler 1, coring red sandy shale 6257 ft; Roseberry 1, 19-23-9, lcn; Denman 1, 1-22-11, salt water abn, td 2719 ft.

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
ASHLEY COUNTY—		
Atlantic O. P. Co., Bledsoe 1, 20-15-7	*	3058
COLUMBIA COUNTY—		
Dr. Bush et al, Jones 1, 5-17-18....	*	3302

ASHLEY COUNTY—Atlantic O. P. Co.'s Bledsoe 1, 20-15-7, dry abn, td 3058 ft.

CALHOUN COUNTY—Ohio Oil Co.'s Stout Lbr. Co. 1, 31-14-12, dr 20 ft. Phillips Pet. Co. et al's Eagle Mills Lbr. Co. 1, 11-16-12, cmtd 12½-in cas 517 ft, coring 1795 ft; Freeman & Smith Lbr. Co. 1, 25-16-13, lcn.

COLUMBIA COUNTY—G. W. Dawley et al's Fullenwider & Kitchen 1, 12-17-22, sd wo 2847 ft. Helena O. & G. Co.'s Pickler 1, 19-19-22, sd 2647 ft. Dr. Bush et al's Jones 1, 5-17-18, dry abn, td 3302 ft. T. R. Brown et

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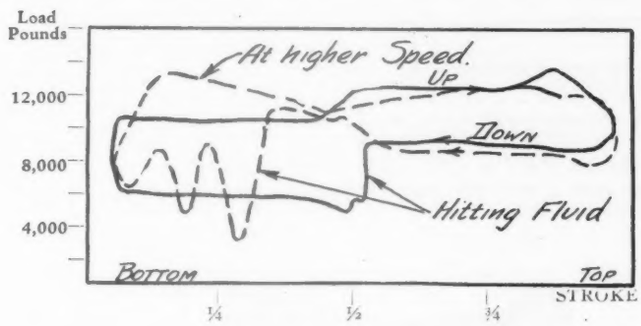

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al's Spencer 1, 18-18-22, stuck and cmtd 10-in cas 380 ft, td 410 ft. Jacob Laskin et al's Dennis 1, 11-20-23, tested 5 joints sw thru, ds 2297-2825 ft, dr 3070 ft.

CRAWFORD COUNTY—Industrial O. & G. Co.'s Brownlee 2, 22-9-31, dr 2290 ft.

DREW COUNTY—McClintock & Goedke's Ogle 1, 35-13-5, trying to clean, td 2530 ft.

FAULKNER COUNTY—Gold Creek O. & G. Co.'s Stermer 1, 17-4-13, temp abn, td 3462 ft.

FRANKLIN COUNTY—Ozark Nat. Gas Co.'s McElroy 1, 15-8-27, lcn.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-3-19w, cmtd 5 3/16-in cas 2996 ft, td 3009 ft. Chaywood Oil Co.'s Malvern Lbr. Co. 1, 17-2-17, bailing 1668 ft.

GRANT COUNTY—Jones & Watkins' Meek 1, 5-4-11, sd 1400 ft.

LITTLE RIVER COUNTY—Grote et al's Allen 1, 21-12-13w, sd 2941 ft.

LOGAN COUNTY—Ark. La. Pipe Line Co.'s Hanna 1, 26-7-23, fsh cable tools 2320 ft.

OUACHITA COUNTY—Lohman & Legrand's Fogle 1, 18-14-16, sd 1570 ft. Flaucher et al's Bucks 1, 7-15-17, sd wo 2475 ft. Timberlake et al's Wright 1, 25-14-18, sd 2907 ft. McDonald Bros.' Wilson A-2, 25-15-19, tested 18 joints oil, 2 joints drill mud, in ds test 2774-81 ft, cmtd 6⅝-in cas 2774 ft, td 2781 ft. Chas. McDonald's Wilson B-3, 25-15-18, coring 2760 ft. Sundby et al's Farris 1, 27-15-15, 1485 ft. Copenhaver et al's Warnick 1, 2-15-17, drk.

ST. FRANCIS COUNTY—W. F. Harris' Halbert 1, 32-4-4, lcn.

UNION COUNTY—Johnston-Gummer Oil Co.'s Cargile 1, 4-18-13, tested 2 joints sw thru ds 2570-88 ft, tested 1900 ft, sw thru ds 2686-94 ft arr deepen. Wesson et al's Booth 1, 12-15-19, sd 2227 ft. Foster et al's Murphy Land Co. 1, 22-17 17, sd 1400 ft. J. P. Hawkins et al's Goodwin 1, 36-17-16, drk. W. M. Coates Tr's McDuffie 1, 32-19-16, tested dry thru ds 3768 coring. Gulf Ref. Co.'s Gaddy 2, 30-17-14, bailed dry 2853 ft in grey sand and black shale, td 3691 ft. S. Arrendale's Gallagher & Nelson 1, 18-18-17, cmtd 12½-in cas 80 ft. John Stark et al's Ainsworth 1, 8-19-16, drk. T. J. Woodley's First Natl Bank 1, 34-19-18, lcn. O. W. Estes' Ramsey 1, 24-17-14, drk. Root Ref. Co.'s Oliver 1, 18-17-13, drk, (formerly Johnson & Foster's Oliver 1.)

EAST TEXAS

BOWIE COUNTY—Hooks O. & G. Co.'s Rosenberg 1, King sur, temp abn, td 3086 ft.

CAMP COUNTY—Rogers et al's Enfelt 1, Montgomery sur, sd 1920 ft.

HARRISON COUNTY—McRitchie et al's Dean 1, Craft sur, sd 2165 ft.

MARION COUNTY—Pettit Oil Co.'s Rives 3, Noll sur, cmtd 6-in cas 2132 ft.

RED RIVER COUNTY—D. M. Buffington's Hoosier 1, Hughart sur, sd 1863 ft. Shad Harper's Garland 1, Jos. Wagley sur, arr resume dr 1862 ft. Johnson Pet. Co.'s Randolph 2, Dean sur, sd 1440 ft.

SHELBY COUNTY—Chaparral Oil Co.'s Holt 2, Matthew Moore sur, sd 3004 ft. Gulf Ref. Co.'s Caraway 1, Patterson sur, cmtd 6⅝-in cas 5030 ft, td 5112 ft.

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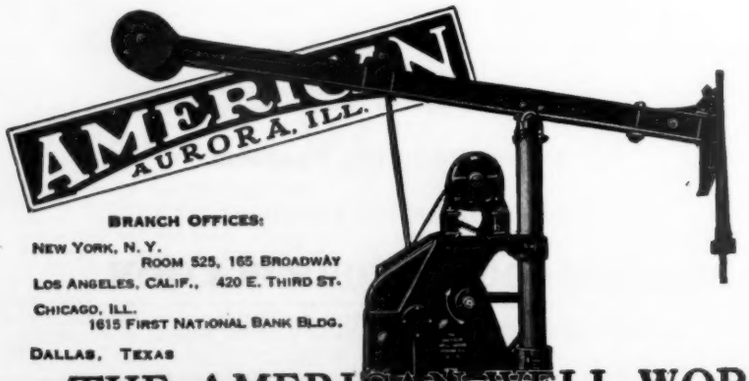

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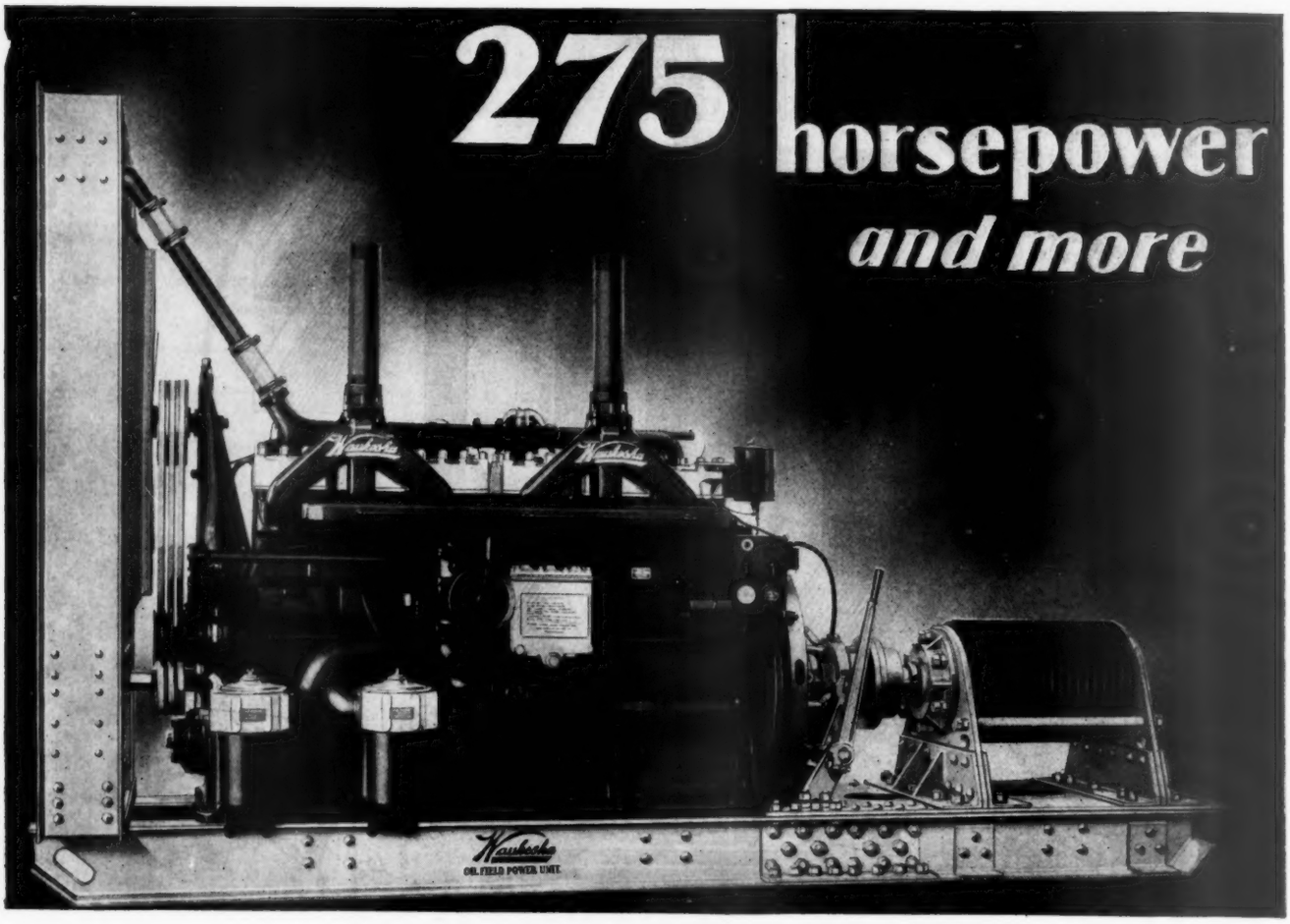

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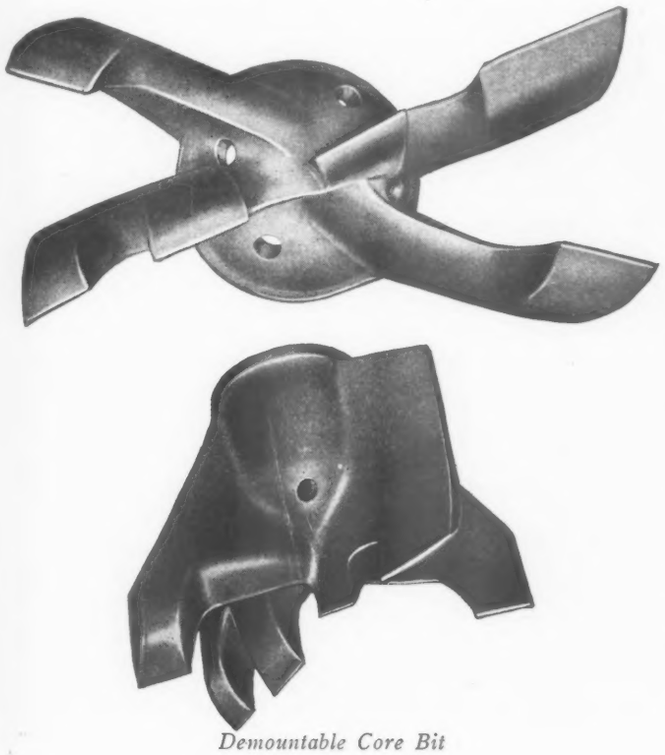


Demountable Core Bit

Demountable Core Bit

H. C. SMITH MANUFACTURING COMPANY

A new addition to the lines of tools manufactured by the H. C. Smith Manufacturing Company, Inc., of Los Nietos, California, is announced with the introduction of the type "C" demountable drilling bit. This latest product of the Smith company is the result of much research on the part of staff engineers to produce a drilling bit that would meet the requirements of new drilling conditions. The new bit incorporates the same carefully designed serrated features of construction used in other Smith drilling bits. In addition, several new features, pertaining to blade and tooth positions, have been added. The bit is of the "X" type. Secondary, or gauge blades, are set immediately behind the cutting blades.

Tests have demonstrated the smooth operation of the new rotary bit, the new features of construction decreasing frictional resistance while increasing drilling speed.

A request to the H. C. Smith Manufacturing Company at Los Nietos will bring further detailed information.

GEOPHYSICAL PROSPECTING

Geophysical Prospecting, a 676-page book for 1929 recently published by the American Institute of Mining and Metallurgical Engineers, represents a compilation of papers and discussions presented at meetings held at New York, in February, 1928, and at Boston, in August, 1928.

A two-page preface by Donald H. McLaughlin, chairman of the Institute's committee on Geophysical Methods of Prospecting, outlines logically a brief history of geophysics and its recent recognition as being practical in the location of ores and minerals.

Papers contained in this volume are divided into five classes, general, electrical methods, magnetic methods, gravity methods and seismic methods. The papers carried in this 1929 volume cover practically all of the valuable research done during the past year by the most capable engineers, geologists and geophysists in the country.

Copies of the book may be purchased direct from the institute's office, 29 West 39th Street, New York City.

Traveling Block

REGAN FORGE & ENGINEERING COMPANY

Regan Forge & Engineering Company of San Pedro, California, offers the latest development in traveling block construction in its new five-sheave block now placed on full production.

This new product, which is illustrated here, offers as the basic principle the embodying of all the original features of the staggered sheave construction, an exclusive Regan development. Changes have been made in the arrangement of the guards, giving reinforcement to the finger guards and protection of the bolts on the pins. The exterior of the block presents an even surface upon which nothing projects that can hang up on the fourble board. The lower clevis is held in place and swings upon a bushing, the latter serving as a spacer so that the clevis can not bind. This block is also made by the manufacturer in three and four sheaves.

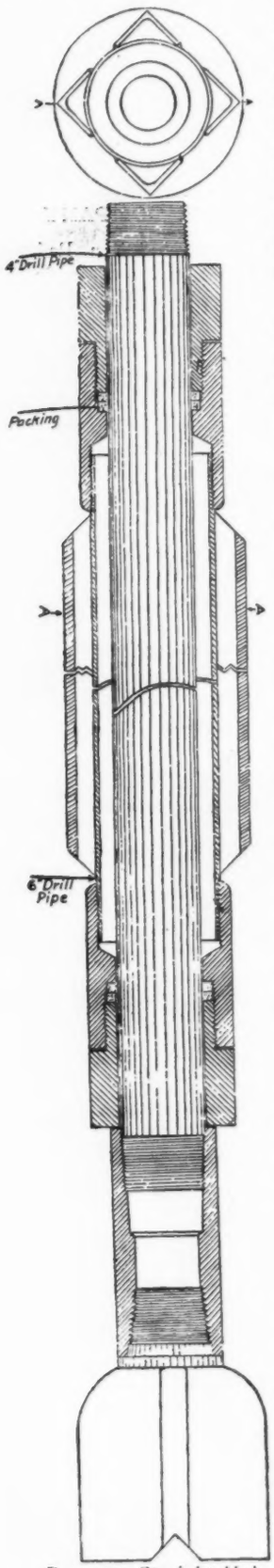
Literature describing in detail the new block may be obtained direct from the manufacturer.

Regan Traveling Block

Straight Hole Guide

THE BREWSTER COMPANY

The Brewster Company of Shreveport has recently developed a straight hole guide, which is designed to keep the rotary bit going in a straight line and to eliminate to a large extent the possibility of sticking the drill stem.



Brewster Straight Hole Guide

This new equipment, illustrated here, is known as a guide rather than a reamer, since the drill pipe rotates through the guide, the latter remaining stationary and merely following the bit as hole is made. Ample provision has been made for the slush to travel by the guide en route to the top of the hole.

The danger of sticking has been alleviated with the straight hole guide through the fact that slush travels straight up the passageway rather than in the usual spiral form.

The guide is made a fraction less than the desired hole to be cut so that it merely steadies the drill stem and holds it perpendicular and yet is flexible at all times. It is provided with stuffing boxes at top and bottom to take up the wear on the rotation of the drill pipe and is so designed that on four-inch drill pipe drilling in 9⅞-inch hole it will have a clearance of one-eighth-inch on each side of the wall. The manufacturers state that circulation is so distributed that sticking will be prevented while circulation is kept up.

This guide may be used in sections varying from four to 20 feet and can be used over any number of lengths of drill stem, making as much guide as necessary. The company will forward further information upon request.

William H. Jackson, purchasing agent for Axelson Machine Company, Los Angeles, has been elected president of the Purchasing Agents Association of Los Angeles.

W. R. Guiberson, vice president of Guiberson Corporation, who has been in charge of the California office of the company for a number of years, shortly after July 1, removed to Dallas, Texas, where he will share the management at headquarters. Prior to leaving he was given a dinner by the Wildcat Committee of the California Oil and Gas Association, at which his resignation was refused and he was given the title of "Chief Clawer."

KIRK-MORROW IRON WORKS TAKES OVER IOLA PLANT

Kirk-Morrow Iron Works Company, a Kansas Corporation newly organized by a group of old oil industry equipment men, on June 19, took over the Iola, Kansas, plant of the United Iron Works, Inc. J. B. Kirk, A.S.M.E., old time operator in Kansas oil and gas fields, is president of the new company. D. C. Morrow, until recently president and sales manager of the United Iron Works Company, is vice president and general manager.

The new company will manufacture and erect steel tanks and derricks, and will manufacture tank fittings, rig irons, bull and calf wheels, band wheels, crown blocks, tug wheels, sprocket wheels, sand reels, refinery equipment and stills, and will do steel plate construction.

Oil industry equipment warehouses through which the Iola plant has distributed its products are taken over by the new company, together with the manufacturing, sales, field, and warehouse personnel intact. General offices of The Kirk-Morrow Iron Works Company are at Iola, sales offices are maintained at Tulsa, Dallas, and Wichita, Kansas. The company has warehouses and stocks of its products at Parco, Casper, and Cody, Wyoming; El Dorado, McPherson and Valley Center, Kansas; Tulsa, Seminole, Maud, Sasakwa, Kanawa, Oklahoma City, Oklahoma; Pampa, Panhandle, Borger, Trent, Big Springs, Pyote, Santa Rita, Texas; Smackover, El Dorado, Arkansas; and Okotoks and Alberta, Canada.

Morrow is in general charge of sales. W. H. Dwyer, a specialist in the sale and erection of tanks, is in charge of the Dallas office. F. J. Bradford, for 25 years engaged in the manufacture and sale of rig equipment, is in the Tulsa office. L. B. Chevalier, A.S.M.E., for 14 years with the Iola plant, and Russell Harry, also a long-time member of the factory organization, remain with the new company as works manager and purchasing agent, respectively.

KRAUSE MADE PRESIDENT OF LEE C. MOORE COMPANY

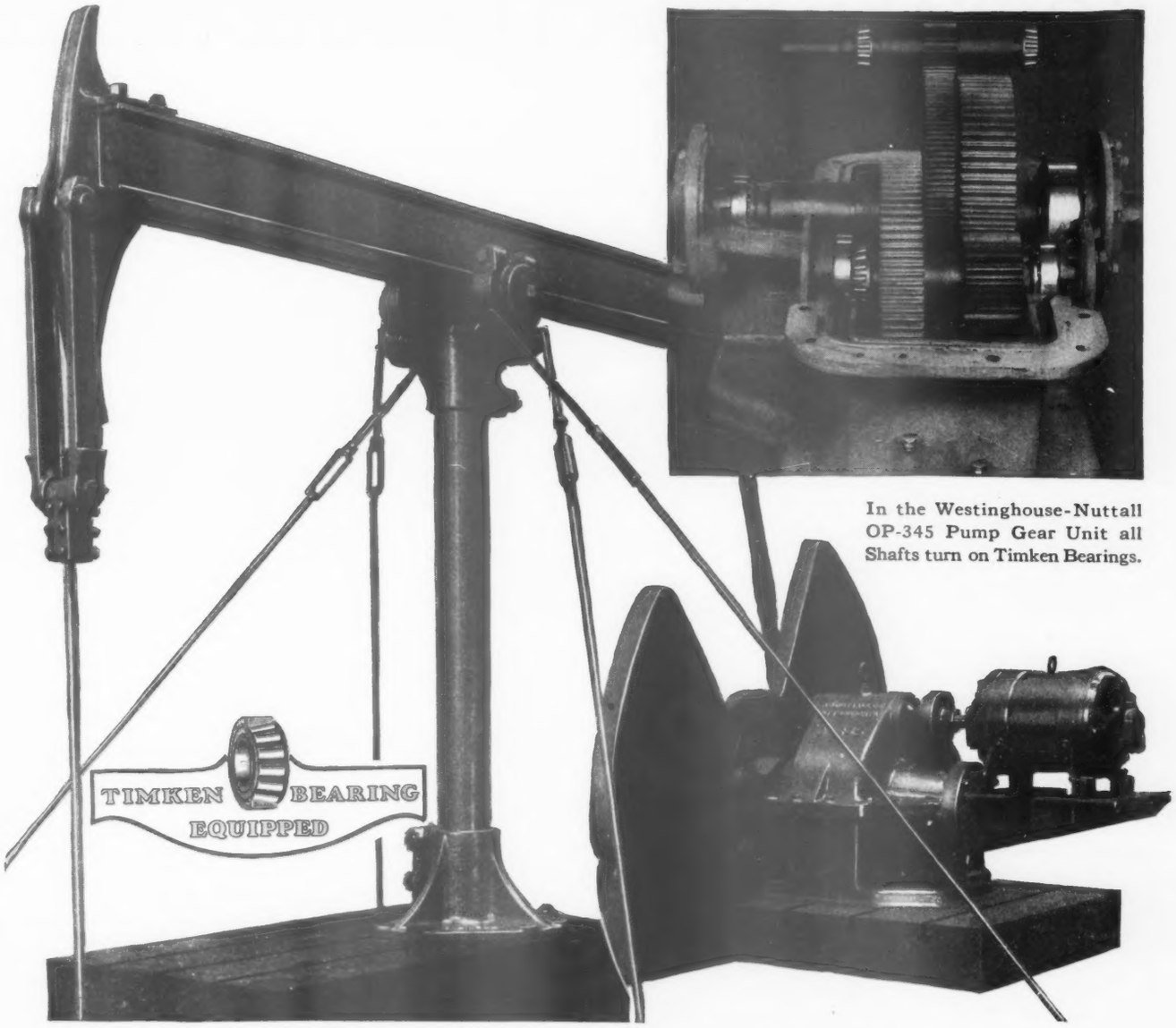
Charles R. Krause, until recently vice president and western manager of Lee C. Moore & Company, Inc., has been elected president of that company. Newton Chapin, president for the past 12 years, will continue active in the company as chairman of the board.

Krause's rise to leadership in the Lee C. Moore Company has been a rapid one. In 1919 he was employed as a salesman, working out of Tulsa. The following year he was commissioned to supervise the erection of a new factory at Pittsburg. In 1921 he was appointed assistant sales manager, and shortly after, western manager in charge of the Mid-Continent district, with headquarters at Tulsa. In 1926 he became vice president.

Prior to his connection with the Moore Company, Krause was employed by the Westinghouse Electric & Manufacturing Company of East Pittsburgh, and also served in the traffic departments of several railroads at Birmingham, St. Louis, Chicago and Kansas City. He was educated in the public and high schools at Kansas City. As president of the Moore company, he will continue his headquarters in Tulsa with offices in the Philtower Building.

Other directors of the company are: Mr. Krause, Charles W. Wright, vice president, Pittsburgh; and John F. Stephens, secretary and treasurer, Pittsburgh. Walton D. Reese of Pittsburgh is vice president in charge of Eastern and export sales. J. D. McEwen is chief engineer.

Sales offices are maintained at Pittsburgh, Tulsa, Dallas, Houston, Casper, and Shreveport. Warehouse stocks are carried in all principal fields. The Oilfield Equipment company is the New York representative.



In the Westinghouse-Nuttall OP-345 Pump Gear Unit all Shafts turn on Timken Bearings.

WESTINGHOUSE-NUTTALL Anti-friction by TIMKEN

All considerations of Efficiency, Power Savings and Endurance in the bearings may be dismissed in the Westinghouse-Nuttall OP-345 Reduction Gear Unit for oil well pumping service—for Timken Bearings are used at all vital points in this reduction gear.

Throughout the oil fields, in thousands of places, sponsored by noted builders and distributors of equipment, Timken Bearings are more firmly fixing their position as the one bearing that handles all oil field loads well. Nothing but Timken economy can be the reason.

Probably no one thing is more responsible for Timken economy than is Timken self-contained radial-thrust capacity—the result of Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS* and Timken-made steel.

More and more is it recognized by well informed purchasers that the way to greatest operating endurance and economy is to order "Timken Bearing Equipped" and lubricate once or twice a year.

THE TIMKEN ROLLER BEARING COMPANY
C A N T O N , O H I O

TIMKEN *Tapered Roller* **BEARINGS**

SQUEAKS FROM THE BULL WHEEL

The candidate was interrupted in his speech by a heckler who asked if he was in favor of prohibition.

"I am (prolonged cheers from the drys) dry)—"not" (prolonged cheers from the wets)—"going to tell you."

"Be observing, my son," counseled Willie's father. "Cultivate the habit of seeing, and you will become a successful man."

"Yes," added Willie's uncle. "Don't go through life like a blind man. Learn to use your eyes."

"Little boys who are observing get on much faster than those who are not," Aunt Jane put in.

The youngster took their advice to heart. A day passed, and once more he stood before the family council.

"Well, my son," said his father, "have been using your eyes?"

Willie nodded.

"Tell us what you've learned."

"Uncle Jim's got a bottle of whiskey hid behind his trunk," said Willie. "Aunt Jane's got an extra set of false teeth in her dresser, and pa's got a deck of cards and a box of chips hid behind Emerson's Essays in the bookcase."

"The little sneak," exclaimed the family with one voice.

"You don't insist on your husband going to church, do you?" asked one wife of another.

"No," replied the other, "he always is so cross when he wakes up from a nap he spoils Sunday dinner by being grouchy all through it when he has been to church."

Agitated Wife—I'm positive that was a human being we ran over.

Motorist (in thick fog)—Then we're still on the road all right.

Have you heard the story of the cross-eyed judge and the three cross-eyed prisoners? They were lined up before the bar. The judge looked at the first and said:

"What's your name?"

The second one answered: "Harrigan."

The judge looked at him "I didn't speak to you," he said.

The third man answered: "What's that?"

"I like this quaint little mountain village of yours, waiter. I suppose I can get plenty of oxygen here?"

"Sorry, sir, but prohibition agents are very active around here."

"Angus, they tell me you and Brother Donald were in a railway accident. Did you collect any damages?"

"We did. But never a shilling wud we have, had I no thocht to kick Donald in the face."

She: "Haven't I always been fair to you?"

He: "Yes, but I want you to be fair and warmer."

"Where's that salesman you had in the used-car department who swore he never told a lie?"

"Oh, he starved to death."

Traveler (as train is about to leave)—Have I time to go to the gate and say good-bye to my wife?

Guard—Cawn't tell, sir. Depends on 'ow long you've been married, sir.

"You are charged with being intoxicated," said the judge to a man before him. "What is your name?"

"My name is Angus McPherson MacNabb," replied the prisoner.

"And who bought you the whiskey?" asked the judge.

"There's a tramp at the door, and he says he has had nothing to eat for six days."

"Fetch him in," said the editor. "If we can find out how he does it, we can run this paper for another week."

The treasury department is reported to have received the following letter:

"I have received your application, but as I already belong to several good orders I do not care to join your income tax at this time."

Yes, on the surface things are often right enough. It's when we get below the externals and explore the depths that we see the deception.

You've been buying a barrel of apples, haven't you?

"You are the most beautiful girl I've ever seen! I long to hold you in my arms, to caress you, to kiss your eyes, your hair, your lips—to whisper in your ear, 'I love you!'"

"Well, I guess it can be arranged."

Bertie—What is your opinion of the Einstein theory?

Gertie—I think the guy that shot him is hiding out somewhere in New York, that's what.

Your boy is tonguetied; a slight operation will cure him.

No, let him alone; I want to make a radio announcer out of him.

When I was young I thought nothing of a 10-mile walk.

I don't think so much of it myself.

The Latest and Greatest Typewriter Development Is

The New Model 6

Remington-Noiseless

with Four-Row Standard Keyboard

THIS is the one machine which contains every feature and every quality the typewriter user needs and wants. The keyboard is standard—familiar to every typist. The touch is exceptionally light and easy, the action swift, the work beautiful, the manifolding qualities unexcelled. And to all of these merits it adds the exclusive and crowning virtue of silence.

Sold by the

REMINGTON TYPEWRITER DIVISION

REMINGTON RAND BUSINESS SERVICE Inc.

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Branches Everywhere

"A Steinway?" asks the guest; and the hostess glows with pride. "Halliburton Cementing?" asks the curious one; and the operator smiles his assent. No further discussion is necessary.

HALLIBURTON
OIL WELL CEMENTING COMPANY
DUNCAN, OKLAHOMA

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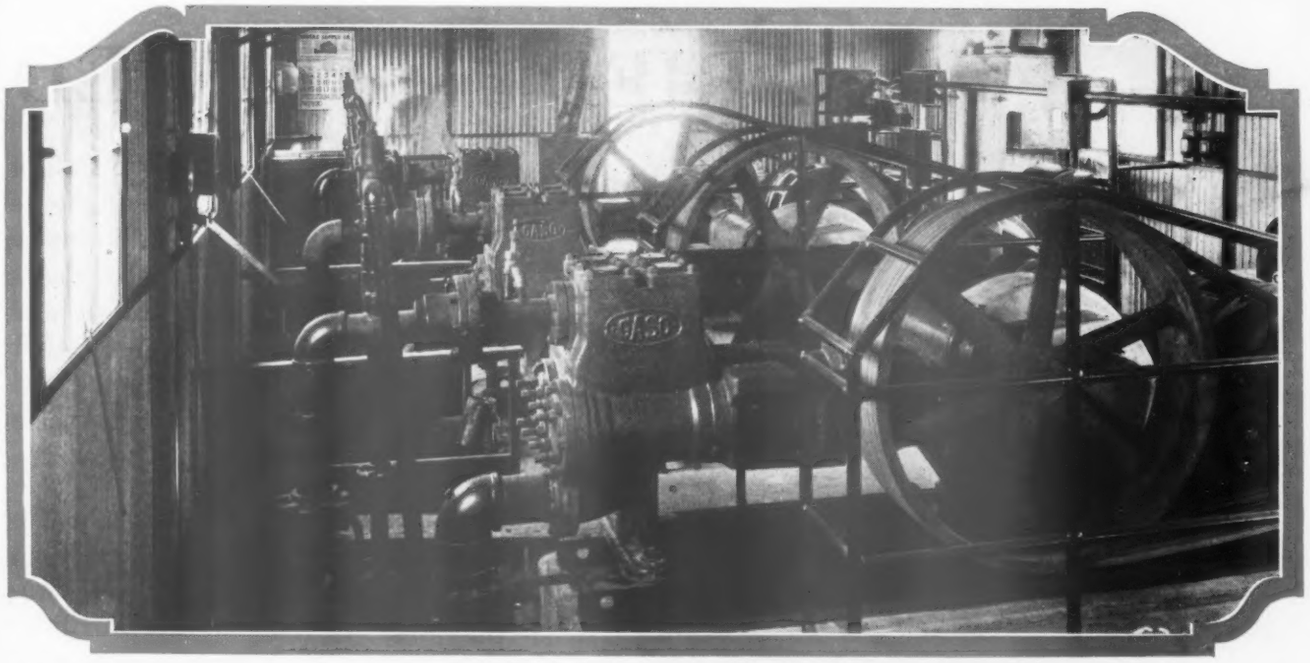
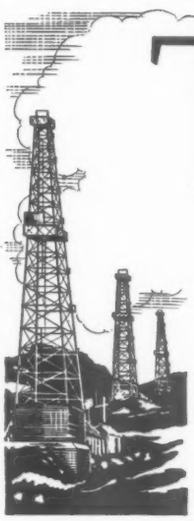


I.T.I.O. selects GASO Pumps for Water Service in Oklahoma City Field



THE illustration shows three Gaso Fig. 710 Duplex Enclosed Power Pumps, with V-rope drive from electric motors, at a water station of the Indian Territory Illuminating Oil Company in the Oklahoma City Field. These three pumps are capable of handling 36,000 barrels of water per day.

Flood lubrication of all working parts—TIMKEN TAPER ROLLER pinion bearings—genuine babbitt main bearings—cast steel solid herringbone gears—mounted in center on steel crank shaft—are features which insure the dependability in constant service demanded of pumps furnishing water for deep drilling operations.

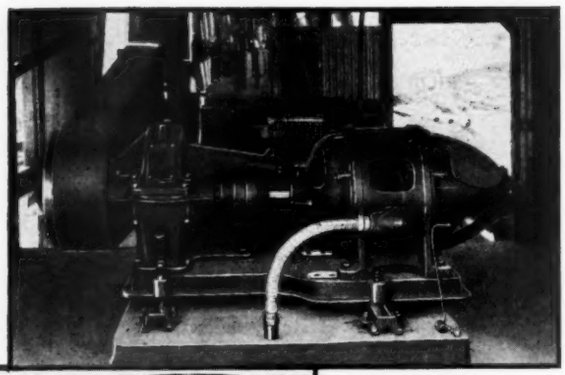
The Gaso Fig. 710 Pump can be arranged for any type of drive: (1) Pulley for belt drive; (2) Direct connected through flexible coupling to gas, gasoline or Diesel engine; (3) Motor through silent chain or reduction gears; (4) "V" Rope drive to motor or engine. Write, wire or phone for detailed information.

GASO PUMP & BURNER MFG. COMPANY
TULSA, OKLAHOMA
210 Petroleum Bldg., Fort Worth, Texas
535 Fifth Ave., New York, N. Y.

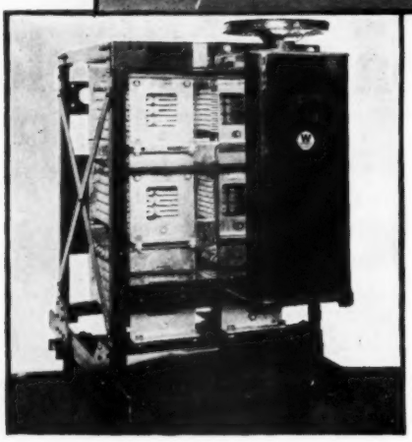
GASO PUMPS
for every oil industry need

TRIED *and* PROVED

IT was not so long ago—in the Fall of 1927 to be exact—that Westinghouse attracted the attention of the oil industry with the development of an auxiliary control which permits cable tool drilling and pumping with the same motor. Since that time, this double-duty apparatus has proved its economical advantages and dependable operating characteristics on many locations.



Westinghouse Two-speed Pumping Equipment.



Westinghouse Auxiliary Control.

In the simplicity of the application of this equipment, lies its effectiveness. Merely set up a Westinghouse 25/65 horsepower, two-speed pumping unit, install the auxiliary control which gives close speed adjustment, and drilling operations can start. When the well is brought in, the auxiliary control is removed and the motor with its main control carries on with the pumping. The auxiliary control can be removed to another drilling job.

Westinghouse equipment is designed especially for—not merely adapted to—oil field requirements. Every application has been scientifically studied—every phase of operations and development followed up—so that every piece of apparatus assures consistent performance at all times.

Additional information may be obtained from any branch of the National Supply Companies, the Oil Well Supply Company, located in all oil fields, or from any Westinghouse district office.

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EAST PITTSBURGH PENNSYLVANIA
SALES OFFICES AND SERVICE SHOPS IN ALL PRINCIPAL CITIES

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Serves the Petroleum Industry

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★ACHIEVEMENT
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★*ACHIEVEMENT (Noun) A noteworthy and successful action or a distinguished feat. An escutcheon.* *(Heraldry)*

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6" TYPE "A"

Descriptive Bulletin No. 50 Sent on Request

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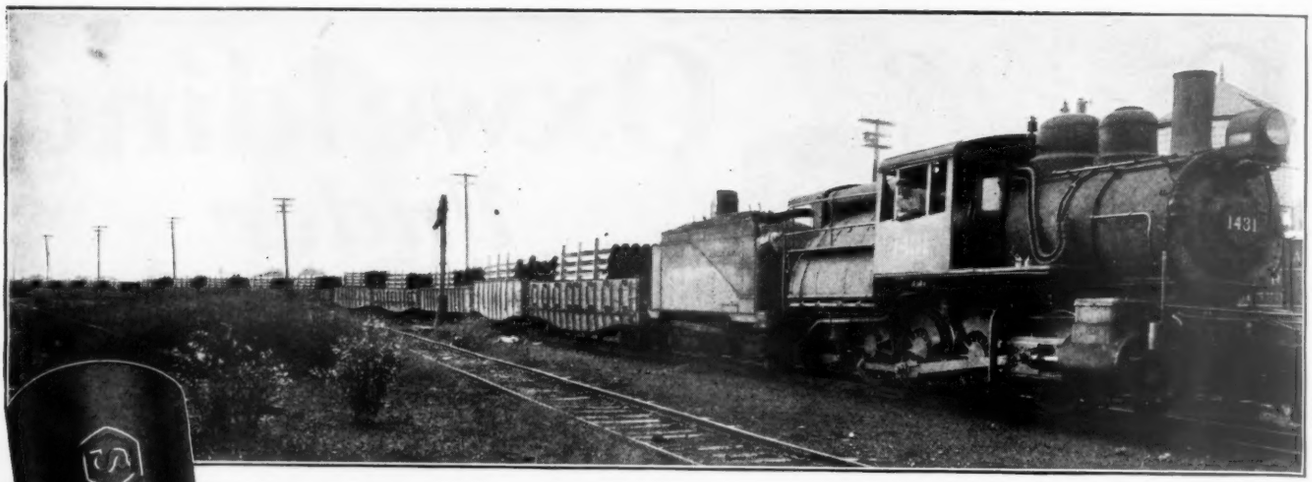

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Chester has earned its reputation for a good product by its careful and exacting processes of manufacture and inspection. You may depend on Chester products to resist crystallization and the heaviest pulling strains, also upon its weldability for Plain End Pipe Lines.

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STEEL CASING
SPECIALISTS IN CASING FOR DEEP WELL DRILLING
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AMONG CHAMPIONS

VERSATILITY

Call upon the Moore Champion for whatever derrick need you have and it will respond efficiently and economically. The basic design of the structure permits of changes to suit the widely varying demands of drilling and pumping. The Moore Champion Derrick conforms strictly to A. P. I. standards.

THE Moore Champion DERRICK

LEE C. MOORE AND COMPANY, INC., PITTSBURGH · TULSA

ESTABLISHED 1907

New York Offices: Oilfield Equipment Company—30 Church St., New York, N. Y.

DALLAS, TEXAS · HOUSTON, TEXAS · WICHITA, KANSAS · PARKERSBURG, W. VA. · CASPER, WYO. · SHREVEPORT, LA.

Stocks in All Principal Fields

"And I Learned About Bearings from It"

The use of anti-friction bearings is increasing as more and more is expected of oil country equipment. Deeper drilling depends as much on anti-friction bearings as on any one other mechanical factor.

Six companies give the data on their bearings for oil country equipment in the Composite Catalog, 1929 Edition.

Use your catalog constantly as a reference book

The Gulf Publishing Company

(Catalog Division)

HOUSTON

The extremely close working tolerances of Jones A. P. I. Sucker Rod threads and joints is illustrated by the fact that the minimum clearance between the largest possible pin and the smallest possible box is only one thousandth of an inch.

In order to assure you that the threaded pins and boxes of Jones H. M. Sucker Rods will reach you in the same clean, perfect condition as they left the factory, every box and pin is carefully fitted with the Jones thread protectors which preserve the original accuracy of the threads as well.

Made to A P I Specifications

INSPECTED

Every Jones A. P. I. Sucker Rod Joint is a product of micrometric accuracy, inspected with master gauges by tool experts long schooled in that high standard of workmanship that has made Jones H. M. Sucker Rods famous for their tight, snug-fitting joints throughout the petroleum world.

If you would profit by these precision methods of sucker rod manufacture always specify Jones High Manganese Sucker Rods.

THE S. M. JONES COMPANY
TOLEDO, O., U. S. A.

Mid Continent Office—McBirney Bldg., Tulsa, Okla.

JONES SUCKER RODS

SKILLED SUPERVISION GUARANTEES THE QUALITY OF GULF PRODUCTS

COASTAL AND PARAFFINE CRUDES
GASOLINE — LUBRICATING OILS
NAPHTHA — GAS — OILS
WAX — PETROLEUM COKE
CYLINDER—ENGINE—CORDAGE

GULF REFINING COMPANY

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New York Harbor (Bayonne, N. J.)
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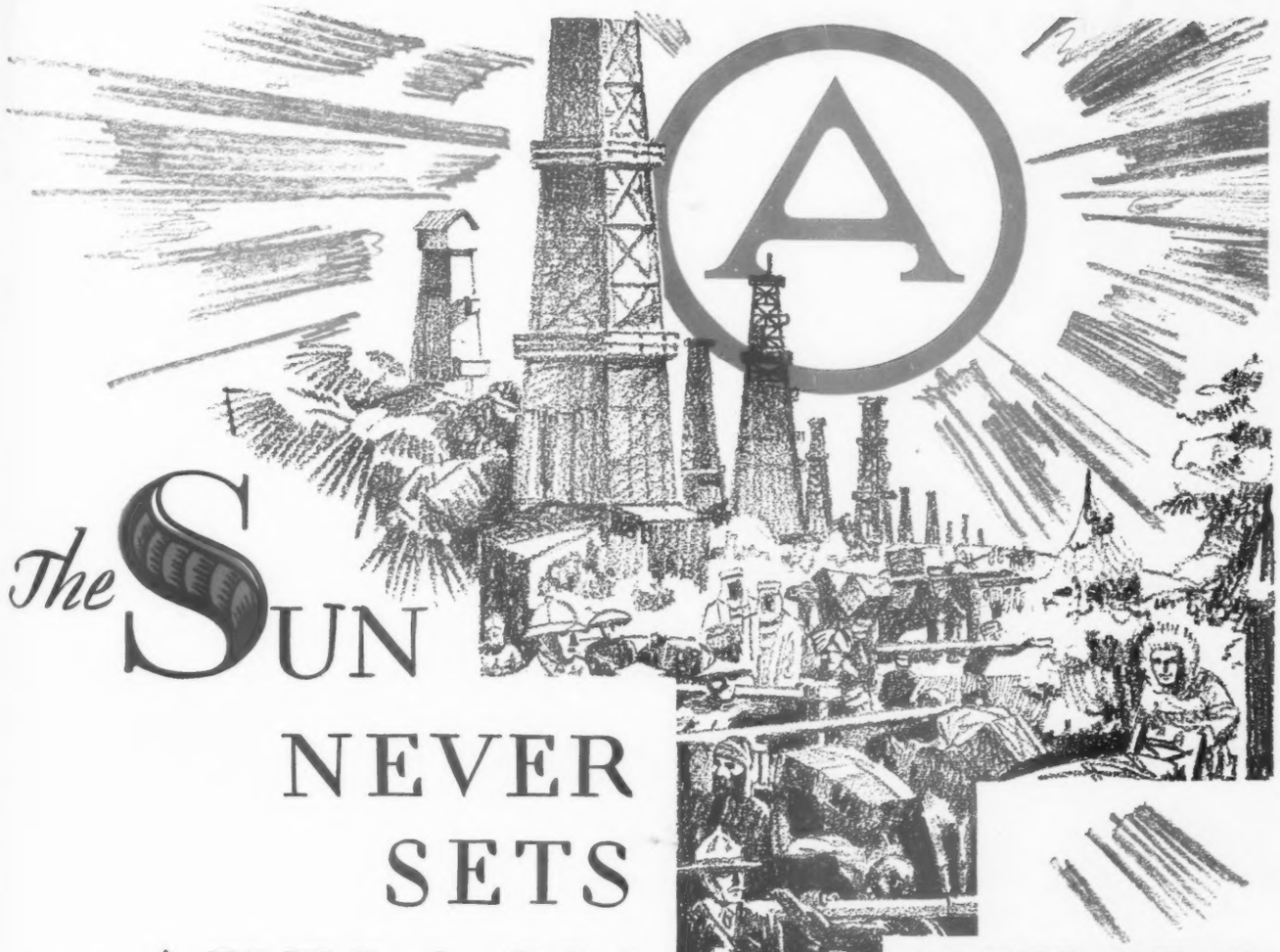
Mobile (Magazine Point, Ala.)
Philadelphia (Girard Point, Pa.)
Charleston, S. C.
Savannah, Ga.
New Orleans (Gretna, La.)
Port Arthur, Texas
Galveston, Texas



The SUN NEVER SETS on AXELSON PUMPS and SUCKER RODS

Axelson Machine Company
P. O. Box 337 Los Angeles
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Mid-Continent and Eastern Distributors—
Frick-Reid Supply Corporation

THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

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You can't blame your men

— if their hands are tied!

When your men "on the ground" ask for wrought iron tubing, make it available for them. They know that genuine wrought iron such as BYERS, will show a service life from 100% to 500% greater than common tubing. They know that actual service records, made under severely corrosive conditions, demonstrate conclusively that BYERS TUBING resists corrosion and failure to a very high degree.

Don't blame your men if production is interrupted, due to premature pipe failures. Give them BYERS—and you will save money in the long run.

A. M. BYERS COMPANY, *Established 1864,* Pittsburgh, Pa.

DISTRIBUTORS

International Supply Co. Jarecki Mfg. Co. Oil Well Supply Co.

BYERS Galvanized TUBING

93% of

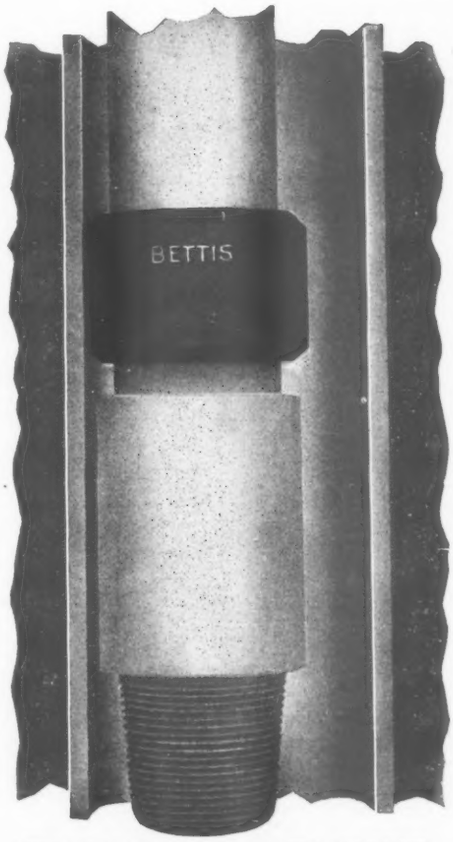
Bettis Orders

for

JUNE						
SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23/30	24	25	26	27	28	29

was

REPEAT BUSINESS



FULLY PATENTED

BETTIS PROTECTORS

"Best bet yet!"

Repeat orders are the surest sign of satisfaction. Practically every oil operator who has used Bettis Protectors *once* accepts them as standard equipment. In June, for instance, 93% of all orders were repeats. 7% were new users who will be in the repeat class soon. No other oil field specialty has ever approached the popularity of Bettis. More than 150,000 Bettis Protectors have been ordered on sheer merit—and not one single well-grounded case of dissatisfaction has resulted to our knowledge.

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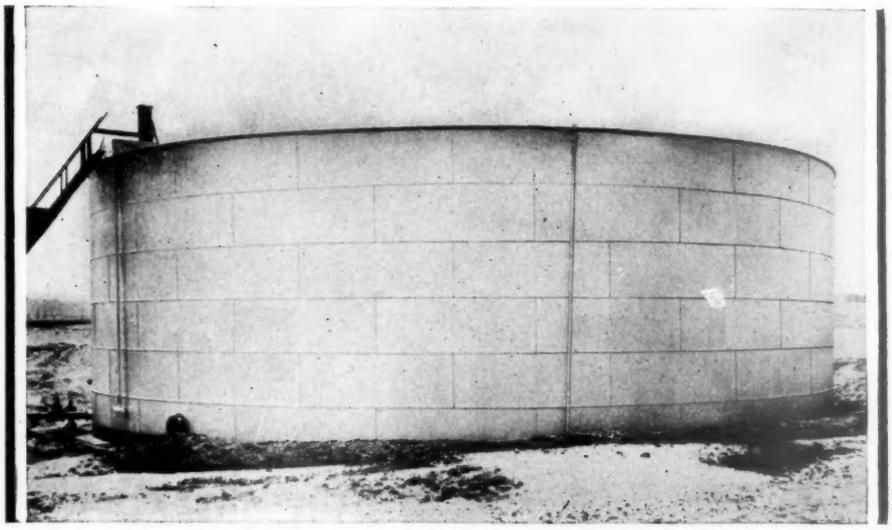
Carried in stock at Los Angeles, Santa Fe Springs, Ventura, Bakersfield, Coalinga, Long Beach, Tulsa, Houston, Wink, Texas; New York City

The Genuine Seamless, Hingeless, Anti-Friction Protectors

DURABLE, *and highly reflective*



A 55,000-barrel tank of the Pacific Oil Company. This tank and its contents are protected with Aluminum Paint.

WHEN oil tanks are painted with Aluminum Paint they present a metallic coating against the forces of the elements that serves several useful purposes.

When Aluminum Paint is applied with brush or spray, its flat, flake-like particles of pure Aluminum leaf together at the surface, forming a film that is not only highly resistant to rust and corrosion—but offers protection against the destructive fumes of hydrogen sulphide.

Aluminum Paint is a conserver of oil. Its bright, smooth surface reflects the sun's rays instead of absorbing them. This keeps the oil cool—reduces losses by evaporation.

Send for our booklet "Aluminum Paint, the Coat-of-Metal Protection." It is of interest to every oil operator who is interested in the subject of economic maintenance.

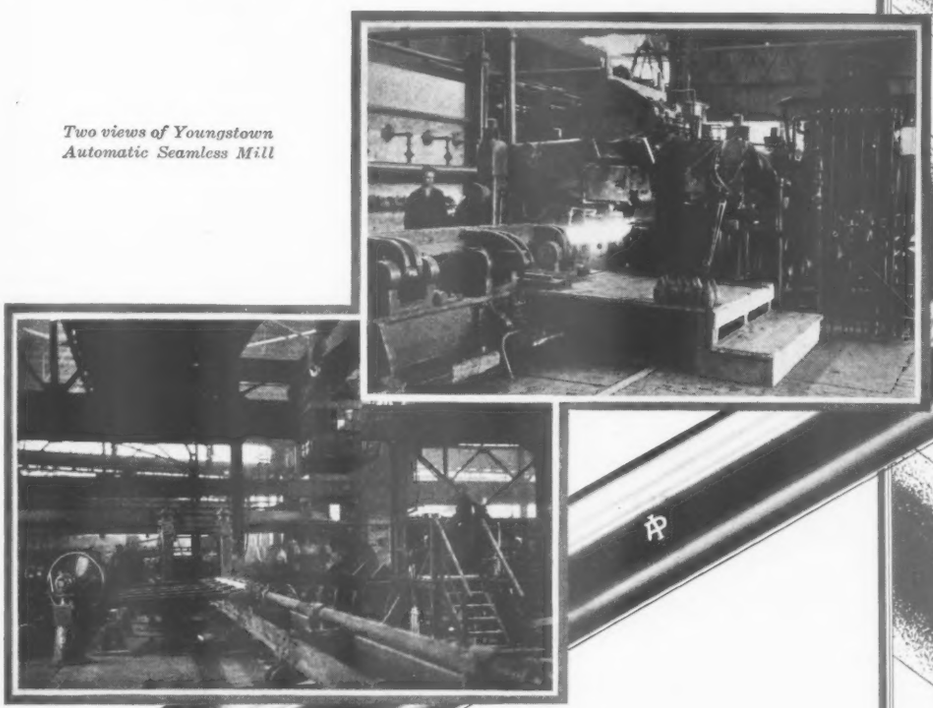
ALUMINUM COMPANY OF AMERICA
2419 Oliver Building, Pittsburgh, Pa.
Offices in 19 Principal American Cities

ALBRON

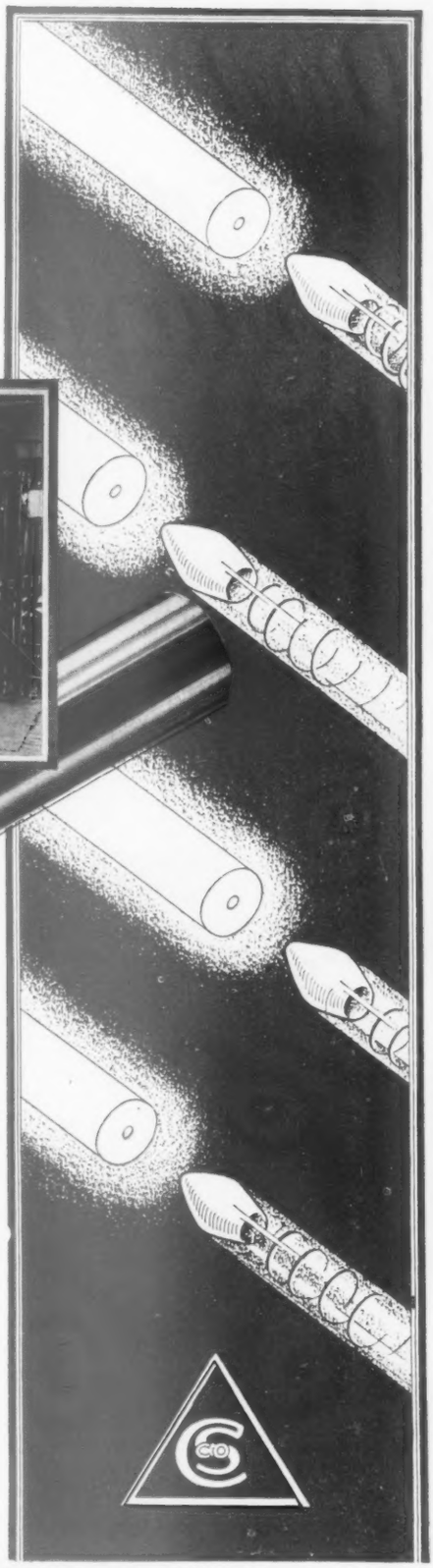
The pigment base for the better grades of Aluminum Paint is ALBRON made of pure ALCOA Aluminum. For extra durability and complete opacity be sure to specify ALBRON pigment.

ALUMINUM PAINT
"IT LEAFS"

YOUNGSTOWN
SEAMLESS
PIPE
MADE BY TWO PROCESSES



Two views of Youngstown Automatic Seamless Mill



Years of research and study convinced the Youngstown Sheet and Tube Company that the automatic process of making Seamless Pipe was peculiarly adapted to some sizes and Pilger process to other sizes. As a result two mills were built which is another reason why all "Youngstown Pipe is Good Pipe".

"If Continental Sells It . . . There Is No Better"

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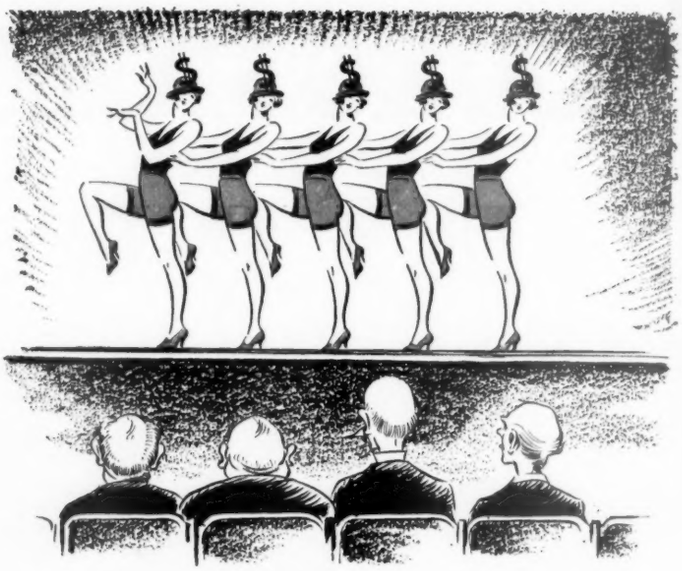
London Offices: 316-17 DASHWOOD HOUSE, OLD BROAD STREET, E. C. 2

THE CONTINENTAL SUPPLY CO., Ltd.
411 LANCASTER BLDG., CALGARY, ALBERTA, CANADA

CONTINENTAL

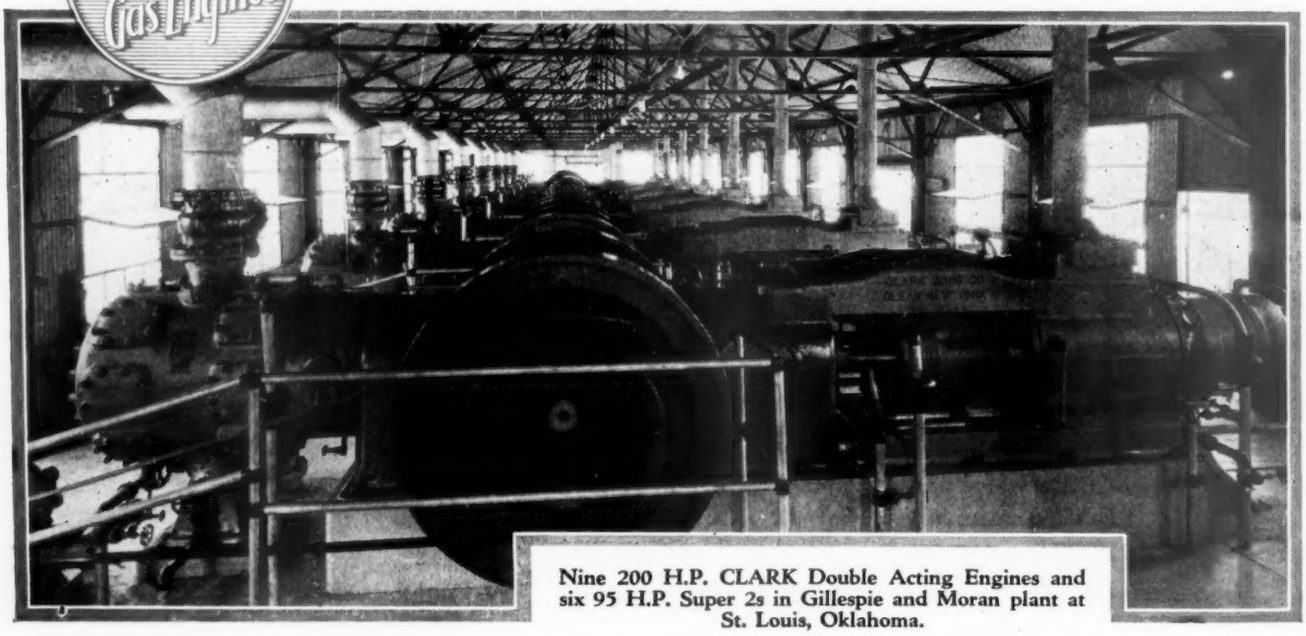
Don't let the Figures embarrass You



THE cost figures for plants under your management won't embarrass you if you take advantage of the notable economies effected by CLARK *Double Acting* Engines. This machine costs less per h.p. for engine, foundation, freight, hauling, buildings, and piping for both power and compressor ends. Designed on the famous "Super 2" principle, it operates on 1/3 the fuel required for ordinary 2-cycle machines. Made in 200 H.P. Single and 400 H.P. Twin types.

Clark Bros. Company, Olean, N. Y. *Export Office:* 150 Broadway, New York City. *Branches and Warehouses:* 125 W. First St., Tulsa; McCamey and Sweetwater, Texas; Artesia, N. M. *California:* Smith, Booth Usher Co., 228 S. Central Ave., Los Angeles.

Compressors and Gas Engines



Nine 200 H.P. CLARK Double Acting Engines and six 95 H.P. Super 2s in Gillespie and Moran plant at St. Louis, Oklahoma.

CLARK

"FOR EVERY JOINT ON THE LINE"

VICTAULIC COUPLINGS

3" gasoline line, Tonkawa, Oklahoma. Four men laid 160 lengths in 7 hours, using Victaulic Couplings.

Victaulic Coupling supporting 980 pound load — under a hydrostatic pressure of 1000 lbs.

Two 12" gas gathering lines with Victaulic Couplings, St. Louis, Okla.

SPEED, ease and economy of installation—and leak-proof joints at any pressure from vacuum to any pressure required—have made Victaulic Couplings standard oilfield equipment for crude oil, gas and water pipe lines.

Flexibility at every joint—every Victaulic Coupling an expansion joint for the pipe lengths it connects—absence of leaks when the line sags or is shifted under full load and working pressure—disconnection at any coupling without injury to coupling or pipe, for cleaning the line, replacing a defective length or connecting a new line—elimination of joint-maintenance costs—these are some of the features that have earned the specification of Victaulic Couplings on oilfield and refinery lines, water, sewage, compressed air and gas lines and for a wide range of uses in process products manufacture.

Available in all sizes from ¾-inch up. For steel, wrought iron, spiral weld, and cast iron pipe—all pressures.

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The all-purpose coupling

"For every joint on the line"

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PIPE COUPLINGS

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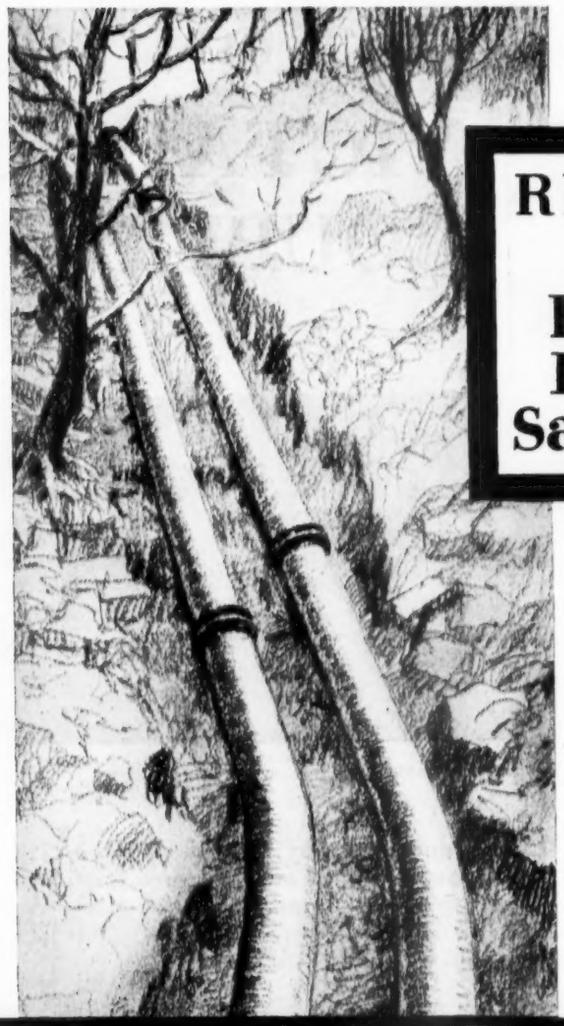
FOR CRUDE OIL, GAS, WATER, SEWAGE, COMPRESSED AIR, ETC.



REPUBLIC *Means* Every Day Pipe Line Satisfaction

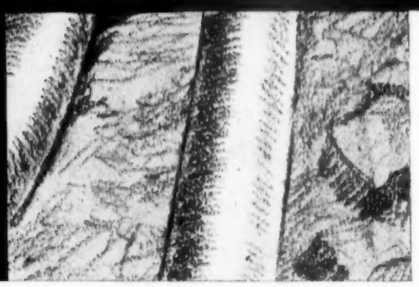
Every day pipe line satisfaction . . . that's why Oil Country men have confidence in Republic.

When Laying a New Line—every length of Republic pipe is of uniform quality—strong and sound, with good clean threads that assure tight joints.

After the Line Is Laid—Republic Pipe provides constant, satisfactory and enduring service.

If it's "Republic," there are no pipe line troubles.

PRODUCTS
Tubing
Casing
Line and
Rotary Drill
Pipe.



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